WEST EUROPEAN COMPUTER SERVICES MARKETS

VOLUME 2

VENDOR ANALYSIS

INPUT EUROPE

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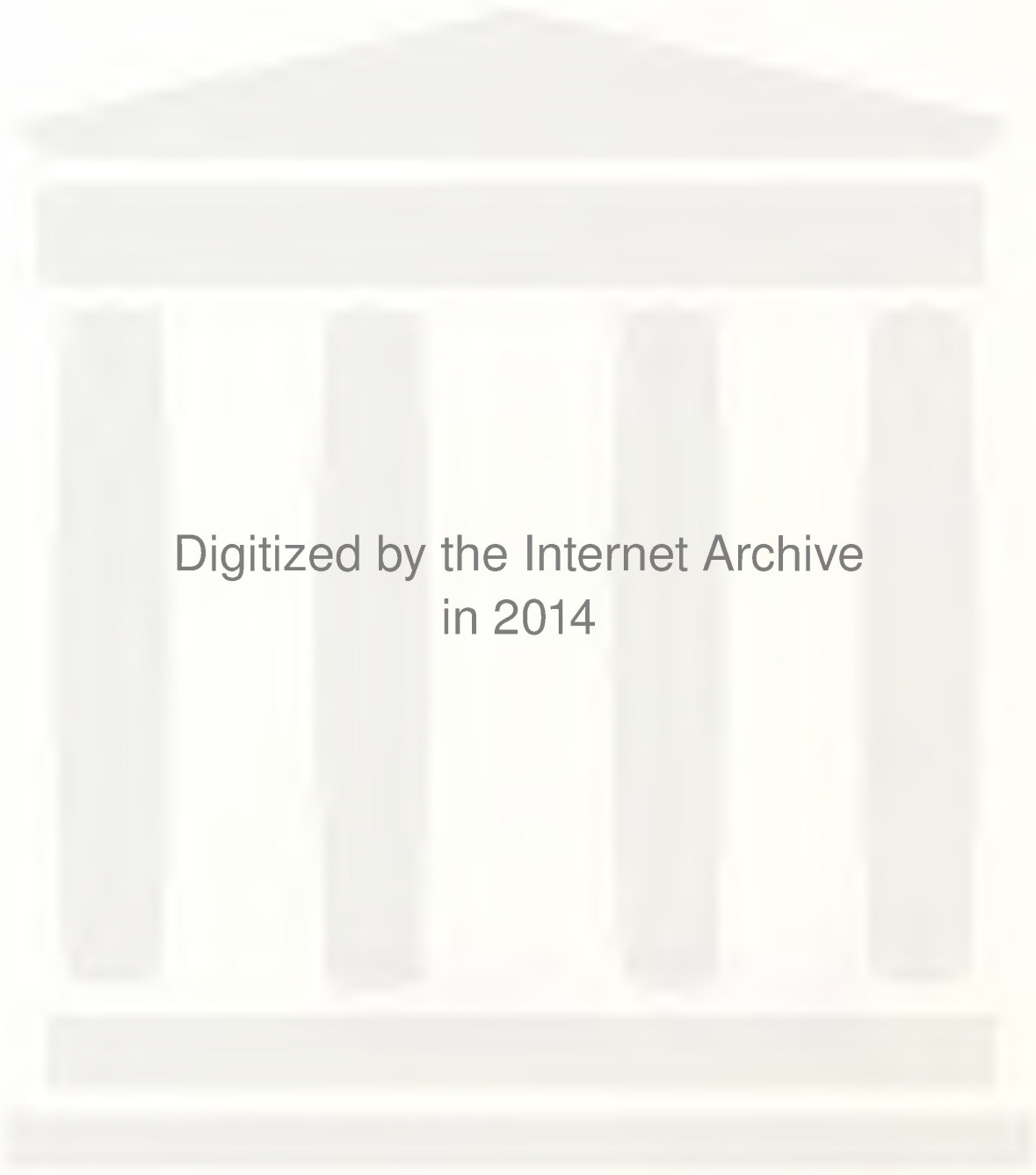
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SECTION V. VENDOR ANALYSIS

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V. VENDOR ANALYSIS

A. EUROPEAN VENDOR OVERVIEW

- In 1977 the Western European computer services market topped $3 billion for the first time and was growing at an overall rate of 21% per annum. In 1978 the market grew at 22% to achieve a total value of $5.43 billion.

- France continued to be the largest market for computer services in total and for all but one service category. The U.K. market for Interactive Services is marginally larger.

- An increasing load of time critical application is driving the expansion of the interactive market (and the development of the software related thereto).

  - Remote batch is not as attractive a user alternative and is growing at a slower rate.

  - A further development, on-site computers connected to a network for offloading peak work demands will not change this picture from the remote batch services standpoint. Users are indicating their requirement for immediate on-line processing not the deferred processing inherent in remote batch.

- While growth is expected to slow slightly over the 1978-82 period, the market will nevertheless double in size reaching $7.2 billion by 1982.

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B. MULTINATIONALS OPERATING IN WEST EUROPEAN COUNTRIES

- Multi-national RCS companies such as IBM, GEIS, ADP, CDC, CSC, UCC and COMSHARE have several important characteristics in common, namely:

  - all have their origin in North American corporations

  - nearly half are derived from hardware companies and most of the remainder are becoming increasingly involved with hardware marketing

  - the data services operations of these companies are geographically more widely distributed that any indigenous European competitor

  - the data services operations of these companies are larger by total revenue than their European counterparts, and, in some cases they are larger on the basis of European revenue alone.

  - all benefit from the relatively enlighted attitude towards investment of North American companies and due to their corporate size are in a strong position to make money available for new products and services.

- The RCS companies created by hardware suppliers are able to benefit from their parenthood in several ways:

  a) hardware can be supplied internally on an at cost basis

  b) systems and applications software can be supplied on a favourable cost (where normally charged) and support basis

  c) the development cost of RCS systems and applications software can be spread over the hardware sales as well when applicable to the wide market

  d) RCS marketing benefits from the image and marketing activities of the larger hardware side of the business

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e) in the trend towards "on site" computing the hardware supplier-owned RCS companies have a strong case when presenting their assurances to prospects on hardware support and maintenance.

C. ANALYSIS OF VENDORS

- The following sections (V-C.1 - C.6 inclusive) are extracts from CAMP (Company Analysis and Monitoring Program) for the six country markets examined in this report.

- For each market, we have extracted the Computer Services Index, which gives the names of the companies alongside an analysis of activities, together with five Company Highlights which have been selected for inclusion in this section with the following factors borne in mind:

  - software and professional services are offered - in many cases, as the major activities;
  - Achievement of variety in company size and ownership has been attempted in order to include multinational and national organisations.

- An analysis of the distribution of sample computer service companies by 1978 turnover and principle activity appears at the beginning of each country market. This gives a breakdown of company size, both by actual figures and by percentages of the market coverage in the following areas:

  - Remote Computing Services Bureaux,
  - Batch Bureaux,
  - Software and Professional Services companies,
  - Other (e.g. Computer Output Microfilm, Data Preparation, etc.),

- The right-hand column of these tables indicates the percentage of companies for whom this information is available against the actual number of organisations known to exist.

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DISTRIBUTION OF SAMPLE COMPUTER SERVICES COMPANIES IN THE U.K. BY 1978 TURNOVER AND PRINCIPAL ACTIVITY

MAIN ACTIVITY	TURNOVER (US $)								ALL WITH T/O		SAMPLES AS % OF TOTAL POPN.
	10M "A"		10M - 1M "B"		1M - .1M "C"		0.1M "D"				
RCS BUREAU	9	1.9%	36	7.7%	12	2.6%	1	0.2%	58	12.5%	81% of 72
BATCH BUREAU	1	0.2%	34	7.3%	77	16.6%	7	1.5%	119	25.6%	80% of 149
SOFTWARE AND PROFESSIONAL SERVICES	7	1.5%	47	10.1%	134	28.8%	28	6.0%	216	46.5%	80% of 271
OTHER (EG COM, DATA PREP.)	-	-	7	1.5%	54	11.6%	11	2.4%	72	15.5%	80% of 90
ALL WITH T/O.	17	3.7%	124	49.4%	277	59.6%	47	10.1%	465	100%	80% of 582

EXHIBIT V-C.1

COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
ABACUS PUNCHING						*	•	
ABASYL						*	•	
ABC DATAPREP						*	•	
ABRAXAS COMPUTER	*	*	*	*	*	*	•	
ACCORD COMPUTER					*	*	•	
ACCOUNTING & INFORM.					*	*	•	
ADMIN COMPUTER							•	
ADP AUTOMATIC	*					*	•	
ADP NETWORK	*	*		*		*	•	•
AD SERVE	*			*		*	•	
ADS SOFTWARE					*		•	
ADVANCED COMPUTER	*		*	*	*	*	•	
ADVANCED DATA						*	•	
AGB COMPUTER	*	*		*			•	
A.I.A. LTD				*	*		•	
A.J.K.					*		•	
A & K COMPUTER						*	•	
AKP SERVICE						*	•	
ALLAN D'MORIAS				*	*		•	
ALLCARDS				*	*		•	
ALLEGRO COMPUTER				*	*		•	
ALLEN COMPUTER	*	*	*	*	*		•	
ALLIED BUSINESS	*	*	*	*	*	*	•	
ALPHA-NUMERIC (MAIDENHEAD)		*				*	•	
ALPHA NUMERIC MANAGEMENT						*	•	
ALPHA SYSTEMS				*	*		•	
ALTON BUSINESS	*				*		•	
ALVAN COMPUTER					*		•	
ALVERONIC COMPUTER	*			*	*		•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
AMBA SOFTWARE	*			*		*	●	
AMS (COMPUTER SERVICES)	*				*		●	
ARTHUR ANDERSON				*	*		●	
ANGLIA DATA (UCSL)	*	*			*	*	●	●
APPLIED COMP. SYSTEMS					*		●	
APPLIED COMP. TECHQS.	*			*	*		●	
APPLIED COMPUTING				*	*		●	
APT COMPUTER SYSTEM	*		*	*		*	●	
ARBAT (UK)	*		*	*	*	*	●	
ARC SYSTEMS					*		●	
ARDEN DATA	*		*	*	*	*	●	
ARGONVILLE						*	●	
ARIEL		*					●	
ASSOCIATED DATA						*	●	
ASTRAL COMPUTER	*			*		*	●	
ASTRO DATA						*	●	
ATKINS ON-LINE	*	*					●	●
ATTWOOD THOMPSON	*			*	*	*	●	
AUTOMATED INSTRUMENTS	*			*	*		●	
AUTOMATIC INFORMATION	*	*	*	*			●	
AUTOMATION SERVICES	*	*		*		*	●	
AVERY PUNCHING						*	●	
A-Z SERVICES						*	●	
AZTECH SYSTEMS	*			*	*		●	
BARBICAN COMPUTER	*			*	*	*	●	
BARCELLOS	*			*		*	●	
BARIC COMPUTING	*	*	*		*	*	●	●
BARMAEL COMPUTING				*			●	
BAS COMPUTING						*	●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
BCM DATA	*			*	*	*	•	
BCT SYSTEMS	*			*	*	*	•	
BEAUFORT COMPUTER	*	*	*	*	*	*	•	
BEECON			*	*	*		•	
BEMROSE INFORMATION	*	*			*	*	•	
BERESFORD COMPUTER	*			*	*		•	
B.I.S. LTD				*	*		•	
BLANSETT LTD					*		•	
BLUE CIRCLE	*	*		*	*	*	•	
BOC DATASOLVE	*	*	*	*	*	*	•	•
BOEING COMPUTER	*	*		*		*	•	•
BORBOLATTA COMPUTERS	*			*	*	*	•	
BRADLY ASSOCIATES				*	*		•	
BRISTOL UNIFORMS	*			*			•	
BRITISH AIRWAYS		*					•	
G.H. BROWNBILL	*			*	*	*	•	
BRUCE JONES	*				*		•	
BUILDING COMPUTER	*			*		*	•	
BUNZL DATA	*	*	*	*		*	•	
BUREAU COMPUTER					*	*	•	
BURY COMPUTER	*	*	*	*	*	*	•	
BUSINESS & COMPUTER						*	•	
BUTLER COX					*		•	
CACI INC.				*	*		•	
CALDERDALE COMPUTER	*			*	*		•	
CAMBRIAN DATA	*		*			*	•	
CAMBRIAN DATA (BIRMINGHAM)	*		*	*	*	*	•	
CAMBRIDGE COMPUTER (GEEST)	*	*	*	*	*	*	•	•
CAMBRIDGE INTERACTIVE				*	*		•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
CAP - CPP	*			*	*		●	●
CAPABILITY SERVICES						*	●	
CAPP ASSOCIATES						*	●	
CAPSCAM LTD	*						●	
CARA	*			*	*		●	
CBSL SOFTWARE	*	*	*	*	*	*	●	
CCS LTD	*	*		*			●	
CDC DATA SERVICES	*	*	*	*	*	*	●	●
C.E.G.B. COMPUTING	*	*		*		*	●	
CELTIC COMPUTER							●	
CENTRAL COMPUTING						*	●	
CENTREFILE	*	*					●	●
CENTURY COMPUTER					*		●	
C & G COMPUTING						*	●	
CHANNEL DATA PROCESSING	*	*	*	*	*	*	●	
CHARRINGTON COMPUTER	*					*	●	●
CHARTER							●	
CHELTENHAM COMPUTER						*	●	
CHILTERN EDUCATIONAL				*			●	
C.I. DATA CENTRE	*			*			●	
CINCOM SYSTEMS				*	*		●	
CLAYMORE MANAGEMENT	*	*	*	*	*	*	●	
CLYDEPORT DATA	*		*	*	*	*	●	
CMES SOFTWARE				*	*		●	
CMES (TURNKEYSYSTEMS)				*			●	
CMG COMPUTER	*	*	*	*	*	*	●	●
CODEDIT SERVICES						*	●	
COGGON COMPUTERS	*	*	*	*		*	●	
COLERAIN COMPUTER	*			*			●	

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PETER COLLETT				*	*		•	
COLLINS CONSULTANTS					*		•	
COMBYTE SERVICES					*		•	
COMMERCIAL COMPUTING				*	*		•	
COMMUNICATIONS SOFTWARE	*			*			•	
COMPAC COMPUTER	*			*	*	*	•	
COMPOWER	*	*		*	*		•	•
COMPREHENSIVE COMP.	*	*		*	*	*	•	
COMPUGRAPHICS	*			*			•	
COMPUSERVE	*			*		*	•	
COMPUTACROFT	*			*		*	•	
COMPUTAPRINT	*					*	•	
COMPUTEL	*	*	*	*	*	*	•	•
COMP. ACCOUNTING				*			•	
COMP. & ACC. SERVICES	*		*	*	*		•	
COMPUTER ACTION	*	*		*			•	
COMPUTER AIDED				*	*		•	
COMPUTER ASPECTS	*			*		*	•	
COMPUTER ASSESSMENTS	*			*	*	*	•	
COMPUTER CONSORTIUM		*		*		*	•	
COMPUTER DATA PREP.						*	•	
COMPUTER DATA PROC.	*						•	
COMPUTER DATA SERVICE	*			*			•	
COMPUTER & DESIGN				*			•	
COMPUTER DESIGN				*	*	*	•	
COMPUTER FACILITIES	*	*		*	*		•	
COMPUTER INFORMATION					*		•	
COMPUTERISED BUSINESS	*	*	*	*	*		•	
COMPUTERISED PAYROLL	*				*		•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
COMPUTERLINE	*	*		*	*	*	•	
COMPUTER & MANAGEMENT							•	
COMPUTER PEOPLE				*	*		•	
COMP. PEOPLE CONTRACTS				*	*		•	
COMP. PEOPLE MIDLANDS				*	*		•	
COMP. PEOPLE NORTH				*	*		•	
COMPUTER PERSONNEL					*		•	
COMPUTER SALES							•	
COMPUTER SERVICES	*			*	*		•	
COMP. SERVS. (LONDON)	*	*		*			•	
COMP. SERVS. (MERSEYSIDE)	*	*		*			•	
COMP. SERVICES (S. WEST)	*	*	*	*	*		•	
COMPUTERSKILLS	*	*					•	
COMP. SYSTEMS INTERNATIONAL	*		*	*	*	*	•	
COMP. TIME BROKERS						*	•	
COMP. TIME RESOURCES	*						•	
COMP. TWO THOUSAND						*	•	
COMPUTER WORLD						*	•	
COMSHARE	*	*					•	•
COMTACT			*			*	•	
COOPERATORS					*		•	
CONSTRUCTION	*	*		*		*	•	
COOPERS & LYBRAND							•	
CORINIUM	*			*	*		•	
CORT COMMERCIAL	*					*	•	
COTSWOLD	*			*			•	
COUNTY	*	*		*	*		•	
COVEFORD				*			•	
COX	*	*	*	*	*	*	•	

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CP COMPUTER				*	*		●	
CPC COMPUTER					*		●	
C.P.S.DATA	*				*	*	●	
C.P.S. (DATA ENTRY)	*					*	●	
CRANFIELD	*		*	*	*	*	●	
CRENDON	*		*	*	*		●	
CRL ABACUS	*		*	*	*		●	
CRL BUREAU	*	*	*	*			●	
CROSS	*			*	*	*	●	
CSC UK	*	*	*	*	*		●	●
CSS INTERNATIONAL	*	*		*			●	
CTS CONTROL						*	●	
CUMBRIA COMPUTER	*	*	*	*	*		●	
CWS COMPUTER	*	*		*	*		●	
CYBERNETIC RESEARCH (CRC)	*	*	*	*		*	●	●
CYBERNETIC TEACHING					*		●	
CYBERNET TIME (CRC)	*	*		*	*		●	●
CYPHER COMPUTERS	*				*		●	
DALTON DATA						*	●	
DAMAN COMPUTER	*				*	*	●	
DATACALL	*	*		*		*	●	
DATA COMPUTING				*		*	●	
DATA CONSULTANTS			*	*	*		●	
DATA CONTRACTS						*	●	
DATACOUNT	*			*			●	
DATA-DAY						*	●	
DATA ENCODING						*	●	
DATA ENTERPRISES						*	●	
DATAGRAPHIX						*	●	

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DATA INTERNATIONAL	*			*		*	●	
DATA-J						*	●	
DATA-LINK	*	*	*	*	*		●	
DATA LINK (CI)	*	*	*	*	*	*	●	
DATALOG MANAGEMENT					*		●	
DATA LOGIC				*	*	*	●	
DATA NETWORKS	*			*	*	*	●	
DATAPREP COMPUTER	*					*	●	
DATA PREP SERVICES						*	●	
DATAPRO						*	●	
DATAPRON						*	●	
DATA PUNCH	*	*	*	*	*	*	●	
DATA SCIENCES	*	*		*			●	
DATA SERVS. (E.MIDLANDS)						*	●	
DATA SERVS. HAVERING						*	●	
DATASERV						*	●	
DATA 77						*	●	
DATASKIL	*	*	*	*	*	*	●	●
DATASTREAM		*					●	
DATA TRAINING						*	●	
DATA TRANSFER	*			*	*		●	
DATATREK							●	
DATAWEST	*				*	*	●	
DATAWORK						*	●	
DAVY COMPUTING	*	*	*	*			●	
DBA COMPUTER					*		●	
DELOITTE HASKINS				*	*		●	
DELTA COMPUTER	*	*	*	*	*		●	
DELTOM COMPUTER			*		*		●	

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EDP (JERSEY)	*	*	*	*	*		●	
EDP SERVICES					*		●	
EDP SYSTEMS							●	
EJV DATA	*	*					●	
ELECTRONIC DATA	*	*	*	*	*		●	
EMERALD DATA						*	●	
ENGINEERING SOLUTIONS					*		●	
ESCO COMPUTING	*	*					●	
ESSEX CALCULATING					*	*	●	
EUROCO COMPUTER					*		●	
EUROCOM DATA						*	●	
EURODATA COMPUTER						*	●	
EUROLOGIC SOFTWARE			*	*	*		●	
EXCEL DATA						*	●	
EXTEL COMPUTING	*			*	*		●	
FABER COMPUTER	*	*		*	*		●	
FACILITIES MANAGEMENT			*	*	*		●	
FALCON COMPUTER	*	*	*	*	*	*	●	
FASB	*					*	●	
FENI DATA	*			*	*	*	●	
FERNHART	*		*	*	*		●	
FERRANTI CETEC							●	
FINANCIAL DATA			*			*	●	
F INTERNATIONAL					*		●	
FITZROY COMPUTER					*		●	
FLETCHER COMPUTER	*			*	*		●	
FORGE BUSINESS						*	●	
FORMAT				*	*		●	
FORMAT DATA						*	●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
EDP (JERSEY)	*	*	*	*	*		●	
EDP SERVICES					*		●	
EDP SYSTEMS							●	
EJV DATA	*	*					●	
ELECTRONIC DATA	*	*	*	*	*		●	
EMERALD DATA						*	●	
ENGINEERING SOLUTIONS					*		●	
ESCO COMPUTING	*	*					●	
ESSEX CALCULATING					*	*	●	
EUROCO COMPUTER					*		●	
EUROCOM DATA						*	●	
EURODATA COMPUTER						*	●	
EUROLOGIC SOFTWARE			*	*	*		●	
EXCEL DATA						*	●	
EXTEL COMPUTING	*			*	*		●	
FABER COMPUTER	*	*		*	*		●	
FACILITIES MANAGEMENT			*	*	*		●	
FALCON COMPUTER	*	*	*	*	*	*	●	
FASB	*					*	●	
FENI DATA	*			*	*	*	●	
FERNHART	*		*	*	*		●	
FERRANTI CETEC							●	
FINANCIAL DATA			*			*	●	
F INTERNATIONAL					*		●	
FITZROY COMPUTER					*		●	
FLETCHER COMPUTER	*			*	*		●	
FORGE BUSINESS						*	●	
FORMAT				*	*		●	
FORMAT DATA						*	●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
FORMDESIGN						*	•	
FORMSCAN				*	*		•	
FOSSE COMPUTER	*			*			•	
FRANKLIN COMPUTER						*	•	
FRASER WILLIAMS				*	*	*	•	
GALDOR COMPUTING	*		*	*			•	
GAMMA ASSOCIATES	*	*		*	*	*	•	
GANDLAKE COMPUTER				*	*		•	
GEC-MIDLAND	*	*	*	*	*	*	•	
GEEST COMPUTER							•	•
GEEST MINICOMPUTER	*			*	*		•	•
GEMINI COMPUTER	*			*	*	*	•	
GENERAL & ENGINEERING	*	*	*	*	*	*	•	
GENESYS LTD	*	*		*	*	*	•	
GESCOMP UK				*	*		•	
GLASGOW COMPUTER							•	
GLOBE COMPUTING	*	*	*	*		*	•	
GLOUCESTER DATA						*	•	
GMS COMPUTING	*	*	*	*	*	*	•	
GORDON & GOTCH	*	*		*			•	
GOR-RAY	*				*		•	
GRAMPIAN COMPUTER	*	*	*	*	*	*	•	
GRANDMET INFORMATION	*	*	*	*	*	*	•	
GREENFIELD & DIXON						*	•	
GREENS DATA						*	•	
GRESHAM COMPUTER			*	*	*		•	
GRIMOLDBY DATA						*	•	
GROUP SIGMA						*	•	
GROVE COMPUTER	*		*	*	*		•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
GUARDGLEN LTD				*	*	*	●	
GUINNESS PEAT				*	*		●	
HADRIAN COMPUTER	*		*	*	*	*	●	
HALLMARK					*		●	
HAMLET COMPUTER	*	*		*		*	●	
HARLAND COMPUTER	*	*	*	*	*	*	●	
HARLEQUIN BUSINESS	*						●	
HARRISONS COMPUTER	*			*	*		●	
J. HARWELL						*	●	
HAYMARKET COMPUTING							●	
ALAN HENRY						*	●	
HERMES COMPUTING	*					*	●	
HEYWOOD & PARTNERS	*		*	*			●	
HLW COMPUTER	*			*	*	*	●	
HOLE IN 80						*	●	
HONEYWELL NETWORK	*	*					●	
ROBERT HORNE	*	*	*	*			●	
HOSKYNS GROUP	*	*	*	*	*	*	●	●
HOURDS COMPUTING	*	*		*	*	*	●	
HOUSE OF CARDS	*					*	●	
EDMUND HOWARD						*	●	
HOWE-DATA	*	*	*		*		●	
HSV LTD						*	●	
HUGHES RICHARDS	*	*	*	*	*		●	
HUNTINGDON DATA				*	*	*	●	
IBEX COMPUTER	*	*	*	*	*		●	
IBM DATA	*	*		*	*		●	●
I.C.D.P. LTD						*	●	
ICFC-NUMAS					*	*	●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
INCOMPUTER	*	*	*	*	*	*	●	
INDEPENDENT COMPUTER	*	*	*	*	*	*	●	
INDUSTRIAL & COMMERCIAL	*	*	*	*	*		●	
INFOTECH INTERNATIONAL						*	●	
INSIGHT MARKETING					*		●	
INSURANCE SYSTEMS				*		*	●	
INTEGRATED COMPUTER	*	*		*			●	
INTERACTIVE DATA							●	
INTER CITY COMPUTER	*		*	*	*	*	●	
INTER CITY DATA						*	●	
INTERNATIONAL					*	*	●	
INTERPLAN				*	*	*	●	
ISIS (GLOUCESTER)					*		●	
ISIS (LONDON)	*			*	*		●	
I.S.S. INFORMATION				*	*		●	
G.B. JACKSON	*	*	*	*	*	*	●	
JANEEN SERVICES	*	*				*	●	
JASERVE	*	*	*	*	*	*	●	
JBS COMPUTER	*			*			●	
JENSON COMPUTER	*	*	*	*	*	*	●	
JOHN BELL					*		●	
KALAMAZOO COMPUTER	*	*		*			●	
K.B.S. COMPUTER	*		*	*	*		●	
KEH DATA	*						●	
KENDAL COMPUTER	*	*	*	*			●	
KERR COMPUTER	*	*	*		*		●	
KEY-LINE						*	●	
K & H BUSINESS	*	*			*		●	
KINGSHILL COMPUTER	*		*	*	*	*	●	

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KNIGHT COMPUTER							●	
KNIGHT CONSULTANCY			*	*	*		●	
KPG COMPUTER	*			*			●	
LAING COMPUTING	*	*	*	*			●	
LANGTON INFORMATION			*	*	*		●	
LCA COMPUTER	*	*				*	●	
LEARMONTH & BURCHETT					*		●	
LEASCO SOFTWARE	*		*	*	*		●	
LEICESTER COMPUTER	*	*	*	*	*		●	
LINCOLN HOUSE	*	*		*	*	*	●	
LIPMAN MANAGEMENT	*	*	*	*			●	
LOGICA LTD					*		●	
LONDON DATA	*			*			●	
LOWNDES AJAX	*	*	*	*		*	●	●
(LUCS)	*	*		*			●	
LYNFORD DATA						*	●	
MANAGEMENT COMPUTING						*	●	
MANAGEMENT DATABASE	*			*			●	
MANDATA	*	*	*	*	*		●	
MANIF SERVICES	*	*	*				●	
MANX COMPUTER	*	*		*	*		●	
MARCOL COMPUTER			*	*	*	*	●	●
JOHN MATCHETT					*		●	
MATICOM LTD						*	●	
MEDWAY DATA					*		●	
METRA LOWNDES-AJAX	*	*	*	*	*	*	●	
METROPOLITAN							●	
MFT COMPUTERS				*	*		●	
MIDLANDS COMPUTING (GEEST)	*	*	*	*			●	●

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
MILL COMPUTER						*	•	
MILLS ASSOCIATES	*		*		*		•	•
MINICOM SYSTEMS						*	•	
DOUGLAS MOORE	*						•	
MORPRES DATA	*			*		*	•	
MOUNCEY						*	•	
MPL COMPUTERS	*	*		*	*		•	
MULTIPLE ACCOUNTING	*			*		*	•	
NAPIER COMPUTER	*			*	*		•	
NATIONAL COMPUTER				*	*		•	
NATIONAL DATA	*	*	*	*	*	*	•	
NEECOS (D.P.)						*	•	
NORTHAMPTONSHIRE COMP.	*	*		*			•	
NORTH-EAST				*			•	
NORTH LINCOLNSHIRE							•	
OCC COMPUTER						*	•	
OLS COMPUTER							•	
ON LINE				*	*		•	
ORWELL DATA	*	*	*	*	*		•	
OSPREY COMPUTER	*				*		•	
PACKAGE PROGRAMS							•	
PA COMPUTERS				*	*		•	
PANSOPHIC SYSTEMS	*	*		*			•	
PARR COMPUTER	*		*	*		*	•	
PATERNOSTER COMP. (FELTHAM)	*	*		*	*		•	
PATERNOSTER COMPUTER	*	*	*	*	*		•	
PAYROLL SERVICES	*	*	*		*		•	
P-E COMPUTER			*	*	*	*	•	
PEAT MARWICK					*	*	•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
PEGASUS					*	*	●	
PENNINE COMPUTER	*		*	*	*		●	
PMA CONSULTANTS	*			*			●	
POLA COMPUTER	*						●	
PROCARD COMPUTER						*	●	
PROFAC COMPUTER				*		*	●	
PROTOSET LTD						*	●	
PROVIDENT MANAGEMENT	*	*		*			●	
PR PEOPLE						*	●	
P.S. COMPUTER	*				*	*	●	
HUGH PUSHMAN				*	*	*	●	
HUGH PUSHMAN COMPILERS					*	*	●	
QUALITY DATA						*	●	
QUOTEL INSURANCE (CRC)	*	*	*	*			●	
RADIUS COMPUTER	*	*	*	*	*	*	●	
RAIR TIMESHARING	*	*		*			●	
RAPIDATA INTERN.	*	*	*	*			●	
RECRUITMENT RESOURCES						*	●	
RB COMPUTER			*		*		●	
RDS COMPUTER			*			*	●	
RETAIL AUDITS	*			*			●	
RHM COMPUTING	*	*	*		*	*	●	
RODING COMPUTER	*	*		*			●	
ROLFE & NOLAN	*	*		*	*		●	
ROSS COMPUTER	*						●	
ROSSENDALE COMPUTER	*	*	*	*	*	*	●	
RTZ COMPUTER	*	*		*	*		●	
RUBICON COMPUTER	*		*	*	*		●	
ST. ANDREW	*	*		*			●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
SCAN (CRC)	*	*					●	●
SCAN DATA	*	*		*	*	*	●	
SCARAB	*	*	*	*			●	
SCHRODER	*	*		*	*		●	
SCICON COMPUTER	*	*	*	*			●	
SCICON INTERNAT.					*		●	
SCIENTIFIC CONTROL							●	
SCOPE COMPUTER							●	
SCOTTISH COMPUTER	*	*				*	●	
SEA & LANDWAYS	*		*		*		●	
SECURITY COMPUTING	*	*	*	*	*	*	●	
I.P. SHARP		*		*			●	
S.H. COMPUTER	*			*	*		●	
SHERWOOD COMPUTER							●	
SIA	*	*			*		●	●
SIGMA COMPUTING	*			*		*	●	
SIMACC SYSTEMS	*	*		*	*	*	●	
SIRIUS B					*		●	
SLINN SYSTEMS			*	*	*		●	
W.H. SMITH	*	*		*	*		●	
SECURITY COMPUTING							●	
SOFTWARE IMPLEMENTATION				*	*	*	●	
SOFTWARE MARKETING	*			*			●	
SOFTWARE PRODS.				*			●	
SOFTWARE SCIENCES	*				*		●	
SOFTWARE SCI. COMPRITE	*			*	*		●	
SOUTHAMPTON COMPUTERS	*	*		*	*		●	
SOUTH-EAST DATA						*	●	
SOUTHERN ACCOUNTING						*	●	

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SOUTHERN COMPUTER	*			*		*	●	
SOUTHWARK COMPUTER	*	*	*	*		*	●	
SPECIALIST COMPUTER						*	●	
SPERRY GYROSCOPE	*		*	*		*	●	
S.P. SUPPORT					*	*	●	
SQUARE ONE DATA						*	●	
SQUARE ONE COMPUTER					*		●	
STAR COMPUTER	*			*			●	
STATUS D.P.				*			●	
STAVELY COMPUTING							●	
STUDLEY COMPUTER	*			*	*	*	●	
SUN ALLIANCE	*			*	*		●	
SWAN PUNCHING						*	●	
HUGH SYMONS							●	
SYNERGY LOGISTICS				*	*		●	
SYNERGY SUCHAN				*			●	
SYS-COM	*	*	*	*			●	
SYSTEM AID	*		*		*		●	
SYSTEMS CONSULTANTS	*	*		*	*		●	
SYSTEM DESIGNERS	*			*	*		●	
SYSTEMSHARE	*	*	*	*	*		●	
SYSTEM SOLVE	*	*	*	*	*		●	
SYSTEM PROGRAMMING				*	*		●	
SYSTEM RESOURCES			*	*	*		●	
SYSTEMS 200	*	*		*	*	*	●	●
SYSTIME	*		*	*			●	
TARGET COMPUTER	*	*	*	*			●	
TCS COMPUTER	*	*			*		●	
TEAMCO EDP	*	*	*		*		●	

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TELECOMPUTING	*	*	*	*		*	●	
TELECOMPUTING SYSTEMS					*	*	●	
TELFORD COMPUTING	*	*		*		*	●	
TEMPO TIMESHARING	*		*	*	*		●	
THAMES CITY	*	*	*	*			●	
THI GROUP	*	*				*	●	
THORNCROFT MANOR	*	*		*		*	●	
TIME & PEOPLE	*	*		*			●	
TKT COMPUTER	*	*		*		*	●	
TRIAD COMPUTING			*	*	*		●	
TRITECH COMPUTER	*			*	*		●	
2903 IMPLEMENTATION				*	*		●	
TYGOZE	*		*	*	*		●	
TYLIN	*	*		*	*	*	●	
TYMSHARE	*	*		*	*		●	●
UCC	*	*					●	
UCSL	*	*		*		*	●	●
UNILEVER (see UCSL)							●	
UNITED COMPUTING	*	*		*			●	
UNIVER. OF SOUTHAMPTON	*	*					●	
VALIDATA						*	●	
VENTEK		*		*			●	
VICKERS	*	*	*	*	*	*	●	
VICTORIA						*	●	
VIDEO				*	*	*	●	
VLI GROUP				*	*	*	●	
WALTHOM MANAGEMENT			*	*	*		●	
WANDLE COMPUTER	*				*	*	●	
WARREN POINT				*	*	*	●	

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WASHINGTON				*	*	*	•	
WATSONS				*	*		•	
WEALDEN	*		*	*	*		•	
WEBSTER DATA						*	•	
WELLORAX	*	*	*	*	*	*	•	
WELLORAX WORDCRUNCHERS	*	*			*		•	
WESDAC SYSTEMS	*			*	*	*	•	
WESSEX COMPUTER	*	*		*			•	
WESTERN DATA							•	
WESTERN PROGRAMMING					*	*	•	
WEST MIDS. COMPUTER				*			•	
WEST MIDS. MANAGEMENT							•	
WEST RIDING						*	•	
WHEATSHEAF	*						•	
M.F. WHELAN						*	•	
WHESSOE TECHNICAL	*	*		*			•	
WHITE FISH	*				*		•	
WIGMORE					*		•	
WILCOX					*	*	•	
WILFORD						*	•	
WILL-DENN							•	
WILSON HUGHES		*		*	*	*	•	
PAMELA WOODMAN				*	*		•	
WOODSOME PARK	*		*	*	*	*	•	
WOOTTON, JEFFREYS	*	*		*	*	*	•	
WORDWRIGHT	*	*		*		*	•	
W.P.S.	*			*	*		•	
X CALIBUR	*	*	*		*	*	•	
XOREN COMPUTERS				*	*	*	•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
Y.B. COMPUTER						*	●	
ZEUS-HERMES				*	*	*	●	
EIRE								
ADP NETWORK	*	*		*		*	●	
A.F.P. COMPUTER							●	
ALLAN D'MORIAS							●	
ALTERGO (IREL)					*	*	●	
APPLIED MANAGEMENT			*	*	*	*	●	
AUTOMATIC INFO.							●	
BARRETT COMPUTER						*	●	
CACI (IREL)					*		●	
CARA DATA	*	*	*	*	*	*	●	
CENTRAL COMPUTING							●	
COMPUTER ACTION							●	
COMPUTER ENTERPRISES							●	
COMPUTER SERVICES	*	*	*	*	*	*	●	
COMPUTER SOFTWARE	*		*	*	*		●	
COMPUTIME LTD	*				*	*	●	
DATA CONVERSION							●	
DATA SERVICES	*			*	*	*	●	
DONAGHUE							●	
GAMMA DATASYSTEMS							●	
HONEYWELL INF.	*	*	*	*	*	*	●	

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HARRISONS					*	*	•	
IBM (IREL)	*	*		*	*		•	
INDEP. COMPUTER	*	*				*	•	
IRISH SYSTEMS TECH.							•	
MANAGEMENT & COMP.	*			*	*	*	•	
McCONNELLS COMP.	*				*	*	•	
McCONNELLS SOFTWARE			*		*	*	•	
MDS DATA		*			*	*	•	
MEMORY IRELAND							•	
ORBIS LTD							•	
PERSONNEL SERVICES							•	
PUNCH & PROGRAMMING		*				*	•	
SOFTWARE DEVELOP.			*	*	*	*	•	
SYSTEM DYNAMICS							•	
TIME BROKERS Dublin							•	
TIME BROKERS Arklow							•	
UCSI	*	*	*			*	•	
ZEUS HERMES				*	*	*	•	

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HIGHLIGHT

Computer Analysts and Programmers (Holdings) Limited

The CAP-CPP Group of Companies

Chairman and Managing Director	A. d'Agapeyeff
Employees	900
Head Office	CAP House, 14-15 Great James Street, London. WC1N 3DY Tel. 01 - 242 0021 Telex 267152
Offices in	England, Austria, Belgium, France, West Germany, Holland, Switzerland, Africa, USA.

CAP-CPP OVERVIEW

- The CAP-CPP group of companies offer user and suppliers of computer systems a complete software capability by supplying:-

  - Truly independent advice on all aspects of computer usage based on the practical experience gained in the completion of over 1600 projects and the freedom of commitment to any particular supplier of computer equipment.

  - Program development systems, program products, application packages and the skills to design, write, implement and support complete systems for clients.

- The Group has been continuously profitable since its formation in 1962 by members of the accountancy profession who have maintained the high standards of project management and control so necessary in the development of software systems for clients.

- Alex d'Agapayeff is a former President of the British Computer Society and Barney Gibbens, Deputy Chairman is a past President of the Computer Services Association. Several CAP staff are Chairmen or members of specialist groups within the Computer Industry.

- In 1975 CAP Microsoft was formed to market and develop a machine independent Microprocessor development system MICROADE including MICROCOBOL followed by a machine independent BUSINESS OPERATING SYSTEM and suites of application programs. CAP Microsoft is the world leader in microprocessor programming techniques.

ORGANISATION

- The CAP-CPP Group has offices in the following locations in the United Kingdom:-

London:	4 Bloomsbury Square, WC1A 2RY Tel. (01) 831 6144 Manager:- H. Atkinson
Reading:	New Oxford House, 1 Station Road, Reading RG1 1LL Tel. (0734) 580264 Manager:- B.J. Ritchie
Alderley Edge:	Barrington House, Heyes Lane, Alderley Edge, Ches Tel. (0625) 584885 Manager:- M. Clephan
CAP Microsoft:	London and Reading as above Manager:- C.J.B. Hawkins
CPP (UK):	CAP House, 14-15 Great James Street, London WC1N Tel. (01) 242 0021 Manager:- N. Pollard
Overseas Offices:	Vienna, Brussels, Amsterdam, Dusseldorf, Munich, Hamburg, Zurich, Geneva, Johannesburg, Palo Alto California, INSAC Inc. in New York.

KEY PRODUCTS AND SERVICES

The CAP-CPP Group has provided its services and products to most sectors of industry, commerce, Government and the computer industry, and has particular application expertise in Manufacturing, Distribution, Banking, Insurance, Finance, Office Systems, Industrial Controls, Construction, Printing, Publishing and Transportation Systems.

Program Products

Operating systems
Language compilers and interpreters
System utilities
Performance measurement programs
Application packages
Development systems

Services

Management and Technical consultancy
Business Analysis
Feasibility studies
Hardware selection
Systems Analysis
Programming
Project implementation
Program maintenance and enhancement

GROUP EXPERTISE

The basis of CAP-CPP's approach is tight project control developed in its traditional implementation projects. This is maintained through standard methodologies, language and documentation standards, fully minuted team project meetings, project reviews (both technical and managerial) and regular meetings between a senior member of CAP and the client.

The other services offered continue this approach, tailored to meet the special requirements of management consultancy, development, installation and tailoring of software products, maintenance services and services for first time users.

Members of the group have worked on all sizes of processors, from the largest main frames to the smallest micro-processors. These have been programmed in all modes (batch to real-time) and in most programming languages. This experience coupled with experience in communications has given them a head start in the emerging market for distributed processing.

One of the primary areas in which the group has an established reputation is in the design and implementation of large scale commercial data-processing systems. These combine the conventional skills of business analysis, system design, programming and testing, with the disciplines of rigorous project management and control.

- For service industries CAP has carried out a range of projects, including a solicitor's time recording system, an estate agent's system for property availability, a dry cleaner's distribution system and mechanisation of a credit rating agency's records.

- The manufacturing and industrial sector has always been an active area for CAP. Work here has ranged from distribution and warehousing systems, through production scheduling and control, to total process control systems.

- Real time and control applications form a significant part of CAP's business. Several compilers have been written for the CORAL real-time language, and this language has been used for two large process-plant applications, as well as a number of small jobs. Other applications have included Concorde fatigue testing, aircraft wind tunnel control and industrial control.

- The administrative systems (for example, accounting and payroll) which are necessary for all companies, are familiar to the CAP-CPP group, and systems have been designed and installed on machines from the largest main frame to smallest microcomputers for companies from multinationals to those employing less than 50 people. Packages for these have been developed for computer manaufacturers and then tailored by CAP to meet individual client's needs. The machine independent packages for mini and microcomputers from CAP MicroSoft have been developed using the experience gained from all those projects.

- One of CAP's first jobs was to write an early commercial language compiler for a computer manufacturer. Since then the group has been continually involved in the development of basic software, writing compilers, interpreters, utilities, and operating systems. It has carried out research on software reliability (functional variability) systems design and implementation (Empirical Computing Systems), and is currently working on machine independent languages, compilers, operating and applications systems.

- Work on on-line systems lead to the development of 'middleware', (software sitting between applications programs and system supplied software), which is now an accepted industry technique.

- In communications the group was involved in implementing one of the earliest packet switching networks, and has expanded this involvement into all areas of communications software.

- The group has already established itself as a European market leader in the supply of packages for IBM operating system enhancement, performance measurement and modelling of computer systems. It is now establishing itself as the provider of machine independent software for minis and micros, with a range covering assembly and high-level languages, a business operating system, utilities and application packages.

- All projects are backed by the specialist support services, from both within the branch and from central resources. These include the provision of standards for languages and project control, management and technical project reviews, the use of the group training facilities and a comprehensive and professional information service and library.

PRODUCT AND MARKETING STRATEGY

- The CAP-CPP Group sees microcomputing as the driving technology for the future profitable use of computers, and has been investing in the development of the necessary software to make this technology a reality to as wide a market as possible. The software released to date includes:-

  - The world's first mini computer based machine independent Host development system for microcomputers - MICROADE

  - The world's first machine independent business programming language for mini and microcomputers - MICROCOBOL

  - MICROCOBOL based application packages for Sales and Purchase ledger, file enquiry (AUTOCLERK) and a Time Recording System

  - A complete business operating system for micro and minicomputers.

- The CAP-CPP Group bases its strategy on a complete commercial independence from any particular supplier of computer equipment so that not only can it offer completely impartial advice to its clients but it can be seen to do so.

COMPANY HIGHLIGHT

CMG (Computer Management Group) Ltd
Group Head Office
Croydon, CR0 1EH
Surrey

Tel: (01) 688 2261

N.J. Scholfield
Managing Director
Total Turnover (1978): £8.5M
Owned by: Employees
Total Staff: 450

THE COMPANY

- During the year 1977/8 the CMG Group increased its turnover by a further 25% and a corresponding improvement in pre-tax profit was also achieved.

- Recruitment improved in the second half of the year suggesting that expansion should be easier during 1978/79. CMG's pre-tax profit margin improved slightly leading to a significant increase in pre-tax profit.

- The expansion of the last two years was marked by the establishment of CMG's third Dutch operating company, CMG Midden-Nederland BV. The further growth in data processing services, which bring CMG into contact with ever increasing numbers of customers, still further improved the stability and continuity of the Group's business.

- CMG remains one of the few computer service companies independent of Government influence and the influence of companies whose interest lies outside Europe or the computer industry.

- In the UK there was a very significant improvement in the productivity and profitability of CMG's software business and substantial data processing sales were made which are already adding significantly to their turnover in the current financial year.

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- A particularly important event has been the introduction of the PAYFACT Works Payroll Service in the UK, where when processing began in April 1978 100 payrolls and 10,000 people used the service in the first few days.

- Customers have "on-line" access to CMG's central computers via terminals in their offices connected by telephone lines.

- The developments CMG has made has resulted in customers deciding to use CMG's on-line bureau services instead of acquiring a new computer and even in replacing their computer with those services.

- CMG's software business has expanded, insurance and banking playing a significant part.

- Continental expansion of the mini-computer business has been a large area of expansion for CMG.

- CMG ordered substantial enhancements to their UK computer centre. This will enable them to operate all their on-line services in the UK from one data centre, based on the success of their Scottish RJE installation which has given their Glasgow office the facilities of a large computer at a reduced cost. A new computer has also been ordered for the Amsterdam computer centre.

ORGANISATION

- CMG is located as follows:

CMG Computer Management Group (UK) Ltd
Sunley House
Bedford Park
Croydon CR0 2AP Surrey

Tel: 01-681-7631 - N.J. Scholfield, UK General Manager

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CMG Computer Management Group (Southern) Ltd
Sunley House
Bedford Park
Croydon CR0 2AP, Surrey

Tel: 01-686-8251

CMG Computer Management Group (Scotland) Ltd
Highland House
58 Waterloo Street
Glasgow C2

Tel: 041-221-8193

CMG Computer Management Group (Middlesex) Ltd
Westway House
320 Ruislip Road East
Greenford, Middx UB6 98W

Tel: 01-578-4563/70

CMG (City of London) Ltd
Eastgate
73 Leman Street
London E1 8EY

Tel: 01-481-3881/9

CMG (West End) Ltd
Sunley House
Bedford Park
Croydon CR0 2AP, Surrey

Tel: 01-686-8251

- In Europe CMG's offices are in Holland, three in Amsterdam and one in Rotterdam; Brussels in Belgium and Frankfurt in West Germany.

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TURNOVER AND STAFF GROWTH

- CMG has grown from a company of around £350,000 annual turnover and 100 staff in 1967/8 to one of around £8,500,000 and 450 in 1977/8.

SYSTEMS HARDWARE

Mainframe

Burroughs	B1700, B2500, B2700, B6700
CDC	600, Cyber 73/28
English Electric	DKP10, KDF8
Honeywell Bull	62/40, 66/10, H1200, H2200, H3200, H58 H6000, H400
IBM	1410, 360/20, 360/40, 370/125, 370/135 370/158, 370/168
ICL	2903, 1902, 1903
NCR	200, Century
Siemens	4004
Univac	1106, 9200
GE	415

Mini

Burroughs	B80, B741, B771, B776 B7-SID, TC500 TC3500, L2000, L3000, L5000, L8000, L9000
Datapoint	2200
Datasaab	D15, D12, M10
IBM	System 32, System 3, Models 6 - 10
Kienzle	6000
Litton	1241
Logabax	LX4000
NCR	399, 499
Nixdorf	620, 8870, 8835, 8845
Olivetti	DE525, A5, A7
PDP	11/40

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Philips	P350, P410, P440, P450, P850
Siemens	7730
Texas Instruments	Silent 700
Ventek	Datapoint

PRODUCTS AND SERVICES

- CMG can provide efficient business and administrative systems from simple payroll to complete administration. Some of the major aspects of the services CMG provide are listed below.

- Computer Consultancy

  Here CMG can offer a wide range of experience on different kinds of computers and organisation. Consultants implement systems on both CMG's and their customers' computers.

- Systems Analysis and Design

  CMG provides this service to three main groups of clients:

  - Existing computer users who require systems or system amendments but have insufficient systems and programming capacity.

  - New users - particularly of the new minis - who need systems developed for their business but do not wish to establish full-scale systems and programming teams.

  - Organisations which do not wish to become involved in running and operating a computer but would like data processed on CMG's own computers.

- Individually designed data processing services (also standard systems).

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- Facilities Management.

  CMG will take this over either on the customer's premises or their own or the customer's work can be transferred to CMG's premises.

- Generalised Systems

  CMG's business was founded on a generalised service giving complete business accounting and management information.

- Specialised "package" systems.

  CMG have established a particularly large base of experience which has been incorporated in this area.

PRODUCT & MARKETING STRATEGY

- CMG expect to continue their present rate of expansion and to achieve a further improvement in margins.

  During the coming year CMG hope to see a further growth in sales of between 20/30% per annum and a further improvement in profit margins.

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COMPANY HIGHLIGHT

DATASKIL LTD
Reading Bridge House
Reading Bridge Approach
READING RG1 8PN

Tel. (0734) 581258

R.V. Holley
Managing Director

THE COMPANY

- Dataskil is a leading European Computer Software and Services organisation. It was formed in 1970 from a number of departmen within International Computers Limited (ICL), and is a wholly-owned subsidiary of ICL. The company is fully self-accounting and independent, and has unique knowledge of the solution of Data Processing problems at all levels using ICL equipment.

- Dataskils specialists have experience of most manufacturers' equipment. The range of expertise available to users of IBM, UNIVAC, HONEYWELL and other equipment is as diverse as operati system technical advice and management consultancy at the high level.

ORGANISATION

- The company organisation is based on several sectors, each of which has a clearly defined responsibility for providing certa services and software products. In this way Dataskil is able to satisfy a wide range of commercial, industrial, and specia environments worldwide.

- The responsibilities of the Sectors are as follows :

  General System Sector : The provision of commercial consultanc and systems and programming in the U.K., the provision of commercial applications software products and related services

  Typical customers include :
  - Government (central and Local)
  - Manufacturing

- Retail & Distribution
- Financial/Planning
- and others with a commercial bias.

Computer Management Sector : The development of the expanding Computer operations market, ranging from simple operator hire to comprehensive Facilities Management contracts.
The sector is also responsible for running Dataskil's own computer centre (Reading System Centre) and for administering Dataskil's other computer facilities in Reading and London.

Advanced Systems Sector : The provision worldwide of consultancy and systems and programming expertise to users with specialised needs, such as communications-based systems, and scientific and technical systems.

The sector has a special responsibility for Information Processing products and services. It is also responsible for offering - in addition to its specialist services - commercial data processing expertise to computer users of all kinds based outside Europe.

Special Systems Sector : The provision of Software services, and products on ICL small systems (such as System 10 and 2903) ; the provision of services and products for non-ICL small systems ; the management of Dataskil's staffing commitment to the Computer Aided Design Centre at Cambridge (U.K.).

The sector contains one of the largest forces of mini and micro-computer specialists in the U.K. and is responsible for application development on these computers.

European Operations Sector : The management of Dataskil's continental European offices ; sales and marketing in Europe (East and West) ; maintaining a U.K. team to work solely in continental Europe, and to complement Dataskil's staff based in the company's European offices.
A vital aspect of the sector's work is to identify methods of developing Dataskil's operations in Europe and identifying new and profitable markets.

- Project & Technical Management Sector : The provision of a central team of highly experienced project managers for (a) the management of large projects, (b) the execution of technical and quality audits for client management.

  The sector's clients include all types of organisation using all types of data processing equipment, and are distributed worldwide.

- Sales and Marketing Sector : The responsibility for promoting Dataskil products and services in the U.K. and international (excluding Europe).

- Personnel, Education & Training : The traditional role of the personnel department is extended to cover the vital fields of education and training for Dataskil own staff, and for clients. Training ranges from "external" high-level courses for management personnel to in-house technical training for consultants and specialists.

  Customer training is usually carried out as part of a contract for services and products, and usually occurs on the client's premises during a project. Dataskil can also arrange for special courses to be held at ICL training centres such as Hedsor Park or Beaumont.

- Comptroller's Department : The provision of a company service for accounting and other administrative services.

TURNOVER, PROFIT AND STAFF GROWTH

- Since its formation, Dataskil has achieved its professional and financial objectives, annual growth averaging about 30%.

- Growth in revenue and staff to September 1978 is summarised below:

Year	Turnover £M	Staff
1971	2.3	540
1972	3.2	730
1973	4.9	740
1974	6	872
1975	7.1	850
1976	8.4	811
1977	12.1	916
1978	16	1200

- One of the fastest growing areas of Dataskil's business is in overseas markets. Growth in orders from 1976 to 1977 was 60% and from 1977 to 1978 approached 100%.

SYSTEMS HARDWARE

- At the present time, Dataskil installations at its Reading System Centre and other locations include:

  2 x ICL 2970
  2 x ICL 1903T
  1 x ICL 2904
  1 x ICL System 10
  ICL 1500

- These computers are used for the development of both Dataskil internal and client software systems. The centre utilises the latest system software, including VME/B, MOP and MAC and the full range of ICL software is available for all computers at the centre.

- Dataskil also has access to the varied computers installed at ICL production, research and development centres worldwide.

KEY PRODUCTS AND SERVICES

- Systems and Programming

Dataskil has the resources and hence the flexibility to ensure

Product Name	1900	2903/4	S.4.	Other Information
Operating System Products				
GEORGE 1 +	✓			
GEORGE 2 +	✓			DME *
Gertie	✓			
1900 MAC	✓			
DLAP	✓			
G2/G2 + Autolibrarian	✓			
G2 + Performance Analysis	✓			
VIDEMAC	* ✓			
EXEC 1 +		✓		
GEORGE 3 +	✓			
Installation Hooks (G3 + IH)	✓			
High Level Scheduler (G3 + HLS)	✓			
Library Update System (G3 + LU)	✓			
System Performance (G3 + SP)	✓			
Operator Stations on VDUs (G3 + OS)	✓			
Listfile Security (G3 + LS)	✓			
Standard Accounting System (G3 + AS1)	✓			
User Modifiable Accounting System (G3 + AS2)	✓			
Filestore Manager (G3 + FM)	✓			
Magnetic Tape Librarian (G3 + ML)	✓			
Operating System Implementation				
DIME GEORGE 1 & 2	✓			
DIME GEORGE 3	✓			
DMMT - GEORGE 3 MACRO GENERATOR	✓			
SYNTAX CHECKER/ GENERATOR	✓			
Applications Packages				
PERT 22AM	✓	✓		
PERT OU2	✓	✓		
PERT OU3	✓	✓		
PERT EDI	✓	✓		
PERT OFI	✓	✓		
PERT DRI	✓	✓		
DATASKIL PROSPER (BATCH)	✓	✓		DME *
DATASKIL PROSPER (VDU)	✓	✓		DME *
DATASKIL PROSPER EDITOR	✓	✓		
PROSPER INTERFACE	✓	✓		DME *
LUCRE		✓		
DILS	✓	✓		
SHOPLAN	✓	(✓)		
Prompt Disc Operating Environment (Q999)	✓	(✓)		
SLIM	✓	✓		DME *
OLOE	✓	(✓)		
STOCK CONTROL	✓	(✓)		
BOMP	✓	(✓)		DME *
ICL OMAC				
RPG2 BOMP	(✓)	(✓)		
COBOL BOMP	(✓)	(✓)		

Product Name	1900	2903/4	S.4.	Other Information
BOMP ON-LINE ENQUIRIES	(✓)	(✓)		
Product Costing	(✓)	(✓)		
COMPAY (Credit Transfer Routine)	✓	✓		
PAYSKIL		✓		
Basic Systems		✓		
7500 Distributive Printing System				7500
STATUS				2900
Communications Systems Products				
2903 COBOL DRIVER		✓		
Datadrive	✓	✓		2960 DME
Dataview	✓	✓		2960 DME
VDU Simulator	✓	✓		
Applications Manager	✓	✓		
IDMS	✓	✓		2900 DM
7502 SPODE				7500 DM
7181 Emulator				7500
Programming Aids				
COBRA	✓		✓	
FORTRAN H			✓	
MPS	✓	✓		
1900 RPG2	✓			
System 4 Text Editor			✓	
1500 COBOL				1500
VERSE		✓		
Scientific Engineering & Management Sciences Packages				
BATCHPAC	✓			
Computer Produced Drawings System	✓			
DELTA	✓		✓	
FLAPS	✓	✓	✓	
Pure Integer Programming	✓			
Depot Siting	✓			
Surface Water Drainage	✓		✓	
Transportation	✓			
GINO-F	✓	✓	✓	DME *
GINOZONE	✓	✓	✓	DME *
The A.C.T.S. Software				
COBOL Automatic Translator (CAT)	✓			
2900 Data Converter (TDC)	✓			
SCL Syntax Checker (SSC)	✓			
Code Monitor (COM)	✓			
2900 Checker (TNC)	✓			
File Comparison (FIC)	✓			
Transition Control & Evaluation System (TRACES)	✓			
2900 Tester (TNT)	✓			
2900 Products				
Dataskil 2900 Accounting Systems				2900
VME/B DIME				2900

Syntax ch cking of System Control Language (SCL) statements.

Monitoring the amount of code tested by the client's test data.

Syntax checking of 2900 COBOL statements.

Comparison of test results.

Control of a conversion project.

Where testing is to be done on current range, backward conversion of 2900 COBOL source to current range COBOL.

Where there is interaction between converted suites and unconverted suites, backward conversion of data files to current range code and format.

COBOL Automatic Translator

)
product is of use in all COBOL rsions to 2900. It is the first and basic part of the conversion ct to convert the source ams to the new dialect. CAT es 1900 and System 4 but can be ded to handle any facturer's dialect of COBOL.

onverted program, if it requires dment, can be edited by any of ethods normally used for am development. On the 1900 the GEORGE 3 EDITOR d be the obvious choice as this comprehensive facilities. For use stem 4 the DATASKIL TEXT OR package is recommended.

2900 Data Converter (TDC)
element of the conversion ages provides a simple method of cribing data files to 2900 etic tapes from the existing disc pe files. Like all ACTS software is on current range. The package sts of a generator program accepts user supplied input ds definitions and optional it record definitions and ates a COBOL program which, run, will perform a field by data conversion for the ibed file and produce an table file for transfer to 2900.

SCL Syntax Checker (SSC)
SSC carries out a syntax check on the 2900 SCL statements presented to it. It allows a degree of checking on the correctness of the SCL prior to running on a 2900.

The Code Monitor (COM)
This package is designed to determine how thoroughly the test data has exercised the converted program, and therefore whether the testing procedure has been sufficient to give confidence in the reliability of the product. Unconverted or the converted source program is processed by the package to produce a new version which is then compiled and run to produce the required statistics. This special version is later discarded leaving the unprocessed version as the operational program.

2900 Checker (TNC)
This is designed to give a quick and simple check on the correctness of the 2900 COBOL program produced by a combination of CAT plus manual attention.

File Comparison (FIC)
This package is a testing aid designed to test the validity of results produced by the forward conversion process. The method used in the comparison process is to convert the equivalent current range file forward using the data converter and then to do a record by record comparison with the 2900 file. Allowance can be made for known differences, e.g. word count fields, so that the user is not overwhelmed with unnecessary error reports.

Transition Control & Evaluation System (TRACES)
TRACES is a project control system that has been developed by Dataskil specifically for 2900 transition projects. It is primarily an automatic feedback system that gives up to date reports on the state of the conversion, thus freeing the Project Manager for the creative work of re-allocating resources, problem solving and planning.

2900 Tester (TNT)
This is provided to enable converted 2900 COBOL source programs to be fully verified on current range before the availability of a 2900. It can be used as a syntax checker, including checks on relationships, and in this capacity the checking is fairly extensive.

DATASKIL 2900 ACCOUNTING SYSTEM
This provides the basic facilities for the charging of jobs run under VME/B.

Details for each job, together with a calculated charge are stored in the catalogue and system journal. Analysis of the measured information is output in the form of a break-down of resources used at the end of each job and summaries for all jobs run during a specified accounting period.

VME/B DIME
This is a proven service based on the most comprehensive fund of experience yet available in the implementation of VME/B. An unaided VME/B user is faced with a massive implementation task comprising several hundred items which must be considered and actioned. In all, a very demanding project, requiring many man-years' effort — and much of this must be dedicated to finding out what has to be done.

VME/B DIME provides complete documentation of the implementation task, including System Implementation Documents and Checklists for every item, together with on-site consultants bringing their VME/B experience to the project.

The aim of VME/B DIME is to provide the customer with the significant benefits of exploiting VME/B more confidently and months sooner than by "re-inventing the wheel" for himself.

that each client receives a service specific to his requirements for:

- Feasibility Studies
- System Analysis
- Programming and Testing
- Implementation and Maintenance

A client may contract for straight-forward staff hire, needed to complement his own resources, or for a comprehensive "Turnkey" project.

For continuity purposes, rigorous documentation standards are adhered to by all Dataskill staff.

- Consultancy

Dataskil consultants are committed to complete involvement with the client's key staff. They are assigned to a projec for their combination of professional qualification, managem experience, business knowledge and wide computer expertise.

- Software Products

Dataskil produces and provides advice on the implementation and use of a wide range of software products, from applicati packages to extensions and enhancements to operating systems The current range is included on the next page.

Dataskil also develops and implements packages for ICL, and are responsible for the development, under contract to ICL, of all ICL 2900 applications software.

- Computer Operations

Dataskil provides operators and other staff on long or short-term hire, consultants to advise management and technical staff and fullscale Facilities Management services where the running of part or all of a data processing organisation is delegated to Dataskil. A valuable service is the computer operations audit, when a consultant evaluates current performance objectively, and produces a report with recommendations for management action.

- Project Management

Dataskil project management teams are available to control hardware and/or software system installation and development. Skilled senior consultants are available to audit a client's entire data processing activities (or a part thereof) and make unbiased recommendations to senior management concerning future e.d.p. policy.

- Sales policy (Products and Services)

Products: Dataskil products are normally licenced on a one-time charge basis. For some, rental terms may be arranged, normally for a minimum agreed period of one year. A one-year maintenance period is normally included in the one-time charge. Maintenance may be extended on an annually renewable contract basis at a reduced charge. Many products also include a period of installation/implementation assistance at no extra charge.

Services: These are contracted on the basis of Time-and-materials, fixed-price quotation, or simple staff-hire. A given project may consist of elements of all three contract types.

Depending on its nature, an assignment may be carried out on the client's own premises or at a Dataskil office, using the client's own or another computer for program and system testing.

- Summary of Application Areas

Dataskil products and/or services are available to cover mos applications, including:

- Database
- Stock-control
- Production control
- Information Retrieval/Storage
- Information Processing
- Financial Planning
- Scientific & mathematical
- Reservations systems
- Transition/conversion
- Modular programming
- Network (PERT)
- Payroll & accounting
- Engineering & numerical control
- Computer graphics
- Operating systems and variants

- Summary of Industry Areas

Dataskil is active in a wide range of business spheres, including:

- Central Government
- Local Government
- Banking, Insurance (and other financial)
- Motor Industry
- Breweries
- Construction Industries
- Manufacturing Industries
- Fashion
- Mass media (TV, Radio, newspapers, etc.)
- Steel
- Public Utilities (gas, water, electricity)
- Transportation
- Retail & Distribution
- Supermarkets & Stores

- Science & research
- Printing & publishing
- Education
- Legal
- Real estate
- Medical

- Summary of Geographical Areas

Dataskil has offices in Reading, London, Edinburgh, Manchester and Wilmslow in the U.K.

In Europe Dataskil have offices in Paris, Amsterdam and Nuernberg and are engaged in projects in Western Europe, Eastern Europe, Middle East, Far East and Asia, Australasia and the Americas.

COMPANY HIGHLIGHT

HOSKYNS GROUP LTD.
91-93 Farringdon Road,
London EC1M 3LB

J.M. Feeney
Managing Director

Tel: (01) 242 1951
Telex: 25800

THE COMPANY

- Hoskyns Group was founded in 1964 and has grown into one of the major computer systems and service companies in the U.K. with world-wide operations.

ORGANISATION

- Hoskyns Group has two main U.K. operating companies:
  - John Hoskyns and Company Limited (JH & Co.)
  - Hoskyns Systems Limited (HSL)
- The Group has offices in Preston, Manchester, Liverpool, Stafford, Wolverhampton, Birmingham, Central London (2), City of London (2), Greater London (2), Rickmansworth, Bristol, Huddersfield and Sheffield.
- In 1975, Hoskyns became a part of the Data Systems division of Martin Marietta Corporation, a U.S. Corporation with a turnover of almost $2,000 million.

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SYSTEMS HARDWARE

- ICL 10 x 1900
  4 x 2903
  1 x 2904

- IBM 2 x 360
  4 x 370

TURNOVER AND STAFF GROWTH

- The turnover figure for 1977 was around £6 million which was 44% up on the previous year.

- Staff totals 530 - 80 consultants, 100 analysts, 150 programmers and 200 operators.

KEY PRODUCTS AND SERVICES

- Some of the major services which the Hoskyns Group offer are:

- Turnkey projects with minicomputers

  Hoskyns usually take full management responsibility for providing their clients with this total facility. This includes selecting, sizing and installing their mini(s), designing and building systems (often using MAS-M) and training their staff.

  Their clients come from almost every section of commerce, finance and industry.

- Microcomputers

  A development company within the Hoskyns Group (Hoskyns Systems Development Ltd.) specialises in using the newest microcomputer technology in commercial applications systems.

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- Modular Application Systems

Hoskyns Modular Application Systems (MAS & MAS-M) are a total systems approach to the information and control requirements of commercial and manufacturing companies. Nearly 1000 MAS elements have been installed worldwide. Hoskyns have application systems for:

- Distribution
- Foundries
- Hotels
- Housing
- Manufacturing
- Shipping
- Transportation
- Vehicle Contracts/Leasing

These systems operate on a very wide range of mainframes, minis and micro-computers including DEC, DG, Ferranti, FP, IBM, ICL, Prime, TI and Univac.

- International Banking Systems

Hoskyns provide a highly flexible, integrated system which handles all the major retail and wholesale activities of international or domestic banks. It can operate on either a single branch or multi-branch basis. Applications handled include:

- Current & Savings Accounts
- Letter of Credit
- Loans and Deposits
- Bills - discounted and rediscounted
- Foreign Exchange
- General Ledger
- Commitments
- Profit and Loss

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o Consultancy

Hoskyns has developed considerable experience in helping to meet the challenge of rapid changes in hardware, software and systems technology. Examples include:

- Strategic Studies
- Systems Design
- Project Management
- Systems Development Methodology

o Computer Bureaux

Hoskyns operate computer service bureaux throughout the U.K. and offer full service on mainly IBM and ICL computers. Their clients have a wide choice as to how they make use of their services. They can use the Hoskyns Systems Centres directly or they may choose to have a variety of terminal facilities on their premises, linked to their large computers. These terminals could themselves be mini or micro-computers, giving on-line enquiry facilities with instantaneous response.

o Facilities Management

Hoskyns is a leading FM contractor in the U.K. and has completed over 45 successful FM contracts, each one helping their clients to:

- Reduce costs without altering service levels
- Broaden career opportunities for staff
- Improve computing facilities at no cost
- Speed up and improve systems development plans
- Provide flexibility and assurance in an area of rapidly changing technology.

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Education Division

Hoskyns run courses for systems and programming staff, their managers, operations staff and non-computer professionals. The courses present practical solutions, and are based on the wide experience of Hoskyns Group in helping clients to build, install and run their computer systems. Their residential centre is in Bournemouth but they also regularly run courses all over the world.

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COMPANY HIGHLIGHT

THE IBM DCS AND RCS GROUPS

(part of the Data Processing Division
of IBM United Kingdom Ltd.,
Itself a subsidiary of IBM UK Holdings Ltd)
P.O. Box 41, North Harbour
Portsmouth, Hampshire PO6 3AU

Tel: 07018 21212

- IBM's Data Centre Services (DCS) and Remote Computing Services (RCS) are both part of the IBM Data Processing Division such that the actual sales performance cannot be separately indentified.

- In the mid 70's the Remote Batch and Interactive Timesharing business of IBM suffered from the loss of SBC, both in terms of public image and IBM management attention to the development of the European operations remaining from the takeover.

- That phase is at an end with an aggressive growth plan in the early stages of implementation. In comparison with IBM's other European markets, the U.K. RB and T/S revenues (of $15m*) are above those of West Germany ($12m*) but easily exceeded by those of France ($22.3m*).

- Total Computer Services revenue (including Batch Services and Software Products revenue) modify this picture substantially. West Germany is the largest market with total revenues of $27.5m*, followed by France ($23m*) with the U.K. a distant third ($19m*).

- IBM's new plan for a strong development of RB and T/S services has recently been dramatised in the specialised press by the preparations of the Warwick supercentre. This 174,000 sq. ft. office building and computer centre could eventually house as many as six 370/168's tied to a network of 80 high speed lines, interconnecting the 10 concentrators serving the UK market.

* INPUT estimate

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- To date only one 370/168 has gone live with the concentrators switching customers' input to either Warwick or the existing 370/155's in London, used for the Terminal Business System and Call Services. Warwick will also serve as a marketing, sales and services centre HQ for the Midlands.

- IBM continues to run Batch Bureaux in the South and the Midlands. At last count, these were:

CROYDON	2 x 370/158
	1 x 370/168
MANCHESTER	2 x 370/145
BIRMINGHAM	1 x 370/158
	1 x 370/135

- IBM's current hiring spree suggests however that there is to be a renewed attack by IBM on the RCS market which should be taken seriously by the top RCS vendors in the UK (Honeywell, Comshare and ADP-NIS) due to (a) the integrated education, service and support available nationwide to users of IBM's DCS/RCS services through DP Division (b) the sheer number of salesmen that IBM is acquiring and (c) IBM's image in all that it does.

- Possibly the greatest weakness in IBM's service is the lack of performance of the 370 line in the T/S environment when compared to, say, the DEC 10. IBM must of course, use only its own hardware, which in this particular operational environment puts them at a performance disadvantage.

KEY PRODUCTS AND SERVICES

- In April 1975, IBM announced A S (Application System). This was designed to allow users with no programming knowledge to apply CALL to their problems. Like CALL, A S is a command driven system, and runs as an integral application of CALL.

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- The A S system offers several language/command modules:

  - A S REPORT (used to enter report format specifications)
  - A S MODEL (used to produce RPG II - like programs)
  - A S FORECASTING (obvious use)
  - A S GRAPH (high resolution curve plotting)

- IBM emphasises A S an Oliver/tabol type language system which offers functional compatibility between the modules. Its effect is to tie users into a single problem solving language, specific to IBM, rather than offering separate single packages which place their own learning curve demands on the user.

- Separate packages continue to be offered on CALL, however, the main ones being:

  - STATPACK (Statistical Analysis)
  - PNA (Network Analysis)
  - STRATPLAN (Financial Planning)

- STRATPLAN offers a variety of standard growth curves (linear, exponential, polynomial) which is dangerously simple. An unskilled user will not command an understanding of the theory behind these tools and so cannot appreciate the implications. (A professional will most likely want to build his own).

- CALL, IBM's T/S system, offers BASIC, FORTRAN and PL/1 as the main programming languages. Terminal Command Language covers the remote system communication, program entry/storage/execution and modification.

- There are four levels of library programs:

  - User library (Proprietary)
  - One star (Available within a company)
  - Two star (All CALL users)
  - Three star (IBM programs, available internationally, e.g. A S, PNA etc).

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TERMINAL TYPES

- The following terminals can be used on CALL:

  - Teletype compatibles
  - Communicating Magnetic Card Typewriter
  - IBM 2740/1 (slow Keyboard Printer)
  - IBM 3767 (Keyboard printer, SDLC)
  - IBM 3770 family (diskette, programmable, SDLC)
  - IBM 2780 (RB)
  - IBM System (RB in 2780 mode).

DATA CENTRE SERVICES

- The main service of DCS is Terminal Business System geared towards the Batch/RB user who is beginning to expand into terminal-oriented applications.

- The basic strategy of TBS is to temporarily set up the user's terminal-oriented applications on the IBM Data Centre and then transfer them in-house.

- DCS, therefore, is very much a staging post for IBM systems that are either being expanded or installed first time.

- There are four grades of RB services:

  - Fast (Processed within 15 minutes of queue entry)
  - Normal (Processed within 2 hours of queue entry)
  - Overnight (Self explanatory)
  - Deferred (Processed with 7 days of request or to an agreed schedule).

- Utilities include File Definition, File Loading, File Enquiry, Report Writer, File Maintenance and Utility Printing. Parameter commands such as Record and File parameters and Application Job parameters describe the content and sequence of data and processing.

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- The result is an "all things to all people" approach matrixing mainframe hardware and peripherals, terminals, services (whether as an add-on to hardware or as a replacement for an in-house system) and industry expertise.

- For conversational processing Conversational Job Language (CJF) offers a language to analysts and programmers to describe the entire process they wish to accomplish. The program is then translated by a system utility and stored for retrieval/execution.

IBM UK Ltd Organisation

- DP Division integrates DCS and RCS. To follow the trend in IBM's market thinking, a comparison of the 1974 and 1977 organisation charts is therefore instructive. In 1974 there were five so-called "Districts" with five to six branches each:

- Government District

* Government Branch (Central Dpts, MOD, Universities and Research)
* Transport & National Enterprise (Surface/Air transport, GEGB & P.O.)
* Government South (Local Gov./Educ., Public Utilities and Medical in the Southeast)
* Midlands Government (Same in Midlands)
* North West Government and Finance (Same in North and West plus Finance in NW & Midlands)

- Finance District

*	Central Banking	-	(The main clearing banks)
*	London Banking	-	
*	Insurance Branch	-	(Insurance in the South)
*	Finance Branch	-	(Other finance houses in the South)
*	Edinburgh	-	(All financial institutions in Scotland)

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*	Midlands Commercial	- (All the above in the Midlands)
*	NW Commercial	- (All the above in NW)
*	Leeds Commercial	- (All types of business)
*	Scottish Commercial	- (All except finance business in Scotland)

- Manufacturing District

*	London South Manufacturing	
*	London North Manufacturing	
*	North West Manufacturing	
*	Midland Manufacturing	- Mainly automotive business
*	Midlands Industrial	- Other Manufacturing customers in Midlands
*	North East Manufacturing	- All business in NE

- GSD District

* Croydon Branch
* Richmond Branch
* Welwyn Branch
* Birmingham Branch
* Bristol
* Glasgow
* Manchester
* Nottingham

- In 1977 this structure was completely overhauled, the 22 branches being reduced to 15 by essentially integrating the industry sector responsibilities into geographically oriented branches. The one exception is Banking which is reduced from two branches (London and Central) to one (London).

- Now each branch has industry specialist units for each of Government, Insurance, Finance (houses and institutions), Distribution, Printing/Publishing and Manufacturing, where this makes sense geographically.

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- Commercial District

*	London Distribution	(Retail, Wholesale, Consumer packaged goods, textiles).
*	London City Commercial	(Conglomerates, printing, publishing and services

- IBM's new DP Division sales organisation is as follows:

DP DIVISION

Director, DP Division P.C. Clarke
Sales Manager DP Division A.B. Cleaver

LONDON AND SOUTH EASTERN REGION

Manager, J.S. McCraken

	Manager
South Eastern Branch	J.G. Tilt
South London DP Branch	N. Tonkin
North London DP Branch	A. Brace
London City Branch	H. Mackay
London Banking Branch	J.W. Nicoll

CENTRAL REGION

Manager, D.J. Livermore

Eastern DP Branch	H.W. Grotefeld
Central Southern DP Branch	P.A. Morrison
South Western DP Branch	R.H. Marriott

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(ii) FRANCE

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DISTRIBUTION OF SAMPLE COMPUTER SERVICES COMPANIES IN FRANCE BY 1978 TURNOVER AND PRINCIPAL ACTIVITY

MAIN ACTIVITY	TURNOVER (US $)								ALL WITH T/O		SAMPLES AS % OF TOTAL POPN.
	10M "A"		10M - 1M "B"		1M - .1M "C"		0.1M "D"				
RCS BUREAU	15	1.2%	61	15.0%	30	7.4%	3	0.7%	109	26.8%	81% of 135
BATCH BUREAU	7	1.7%	22	5.4%	61	15.0%	2	0.5%	92	22.7%	79% of 116
SOFTWARE AND PROFESSIONAL SERVICES	5	1.2%	46	11.3%	103	25.4%	4	1.0%	158	38.9%	74% of 213
OTHER (EG COM, DATA PREP.)	3	0.7%	14	3.4%	28	6.9%	2	0.5%	47	11.6%	84% of 56
ALL WITH T/O.	30	7.4%	143	35.2%	222	54.7%	11	2.7%	406	100%	78% of 520

EXHIBIT V-C.2

COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
ASTI ASSISTANCE				*			●	
ATIC ANALYSE							●	
A.T.M.A.						*	●	
ATTEL ATELIERS					*		●	
AUBE INFORMATIQUE	*	*	*	*	*	*	●	
AUTO GEST			*	*	*		●	
AVA ANDRE VIDAL			*	*	*		●	
AVISO CONSEIL					*		●	
AXYS	*	*	*	*	*	*	●	
BALZAC INFORMATIQUE	*	*		*		*	●	
BAP INFORM							●	
B.C.I.						*	●	
B.D.G.I.	*					*	●	
BERRI INFORM.						*	●	
BESSET						*	●	
B.I.G.						*	●	
BLANC BERNARD			*	*	*		●	
BORDELAIS					*		●	
BOSSIERE ADRIEN					*		●	
BRETAGNE INFORM.						*	●	
BRETAGNE INF.ET CONSEIL	*	*	*	*	*		●	
B. TEAM			*		*		●	
BUMECA						*	●	
BUREAU MARCEL					*		●	
C.A.G.I.	*			*	*		●	
CALCUL JAMMET	*	*				*	●	
CAP GEMINI	*	*	*	*	*	*	●	
CAP SOGETI EXP.	*	*	*	*	*	*	●	
CAP SOGETI FORM.	*	*	*	*	*	*	●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
ACSI ANALYSE							•	
ACTIVITES ET CONSEILS	*	*	*	*	*	*	•	
AERO					*		•	
AGIS ASSISTANCE						*	•	
AIC ATELIERS						*	•	
AID ANALYSE	*	*		*		*	•	
ALBA INFORMATIQUE			*		*		•	
ALGOE ASSOCIATION					*		•	
ALLIANCE INFORMATIQUE	*	*	*	*	*	*	•	•
ALPHA 3			*	*	*		•	
ALPHANUMERIC							•	
AML	*					*	•	
ARTHUR ANDERSEN					*		•	
ANSWARE							•	
APEX INFORM.							•	
APPEL BUREAUX							•	
APPEL INFORM.			*	*	*		•	
APPEL ORDINATEUR	*						•	
APS COMPUTERS						*	•	
APSIDE			*	*	*		•	
AQUITAINE SYSTEMES							•	
ARDENNE INFORM.	*	*	*	*	*	*	•	
ARM CONSEIL			*	*	*		•	
ARMOR SERVICES						*	•	
ARTEMIS	*	*					•	
ARTIC	*					*	•	
ASP ASSISTANCE							•	
ASPROFORCE							•	
ASSISTANCE INFORM.	*			*	*	*	•	

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CAMP SERVICES INDEX

COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
CAP SOGETI GESTION	*	*	*	*	*	*	●	
CAP SOGETI LOGIC.	*	*	*	*	*	*	●	
CAP SOGETI PRODS.	*	*	*	*	*	*	●	
CAP SOGETI SAISIE	*	*	*	*	*	*	●	
CAP SOGETI SYSTEMES	*	*	*	*	*	*	●	
CAPTES INFORMATIQUE				*		*	●	
CARO (CENTRE D'ASS.							●	
CARUS FRANCE	*			*	*		●	
CASEC	*	*	*	*	*	*	●	
CATFI CONSEIL	*		*	*	*		●	
CATI							●	
CCMC INFORM.	*	*		*		*	●	●
C.D.F. INFORM	*	*	*	*	*	*	●	
C.E.A.F. INFORM.	*	*	*	*	*	*	●	
C.E.C.O.C. INFORM.	*	*				*	●	
CECOFI							●	
CECTI		*			::	*	●	
C.E.F.	*	*	*	*	*	*	●	
CEFI					::	*	●	
CEGECO					*	::	●	
CEGEDIM	*	*		*	*	::	●	
C'EGELEC				*		*	●	
C.E.G.I. - Paris	*				*		●	
C.E.G.I. - Ct. Cloud							●	
CEGI TYMSHARE	*	*		*	*	*	●	●
CECMACI					*		●	
CEGOS			*	*	*		●	
CEI CENTRE D'ETUDES	*	*					●	
CELOG CENTRE					*		●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
CE ME NOR	*			*		*	●	
CEMETI	*				*	*	●	
CEMSO	*		*	*	*	*	●	
CENAM	*	*	*		*	*	●	
CENORI CENTRE			*		*		●	
CENTI CENTRE				*	*		●	
CENTRAL INFORM.	*	*	*	*			●	
CENTRAMECA	*	*	*	*	*		●	
CENTRINFORMATIQUE	*	*	*	*	*	*	●	
CEO VERSAILLES							●	
CEPIA							●	
CEPLAM -CALCUL					*		●	
CERCI - CIE D'ETUDES			*		*		●	
CERG - CENTRE D'ETUDE	*	*	*	*	*		●	
CERIA	*	*	*	*	*		●	
CERO CENTRE D'ETUDES	*	*		*	*		●	
CERTEX INFORM	*	*	*	*	*	*	●	
CETA CABINET			*	*	*		●	
CETI CENTRE				*		*	●	
CETIM (FILIALE DE PRESSE	*	*			*	*	●	
CETINE	*	*	*	*	*	*	●	
C4 INFORMATIQUE							●	
C.G.G. COMPAGNIE				*			●	
C.G.I. CIE DE GENERALE	*		*	*	*	*	●	
CGK CIE GENERALE							●	
CHAPAUX	*			*	*		●	
CIAG CENTRE	*				*	*	●	
CIBERT	*	*	*	*	*	*	●	
CICAM			*	*	*		●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
CID D'INFORM.	*		*	*	*	*	●	
CIFEA COMPAGNIE	*	*	*	*	*	*	●	
C.I.G.A. CENTRE	*	*				*	●	
CIGEL CENTRE	*	*	*	*	*	*	●	
CII HONEYWELL BULL	*	*		*	*	*	●	
CIMAC		*		*	*		●	
CIMAP	*	*	*	*	*	*	●	
C.I.M.M.	*	*	*		*	*	●	
CINCOM SYSTEMS			*				●	
CINOREN			*	*	*		●	
C.I.O. CENTRE			*		*		●	
CIREL CONSEILS			*	*	*		●	
CISI	*	*	*	*	*	*	●	●
C.I.T.A.F. CENTRE						*	●	
C.I.T.I.G.				*	*	*	●	
C.M.C.	*	*		*	*		●	
C.M.P. CENTRE	*					*	●	
COGEL	*	*		*	*	*	●	
C.O.G.E.S.I.	*	*	*		*	*	●	●
COGID GESTION	*	*	*		*		●	
COGIM-COMITE P/LE	*	*	*		*	*	●	
COGIP CENTRE			*	*	*		●	
COGITO	*	*	*	*	*	*	●	
COMEUROP							●	
COMPTABILITE ELEC.							●	
COMPTABILITE STAT. - Lyon	*	*		*		*	●	
COMPTABILITE STAT. - Paris	*	*		*		*	●	
COMPUTADATE							●	
CONSEIL ET METHODES	*	*		*	*		●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
CONSULTANTS ASSOCIES					*		●	
CONTROL DATA	*	*		*	*		●	
COPAGI CIE PARISIENNE	*	*			*	*	●	
CORDA	*		*	*	*	*	●	
COREDIS INFORM.				*	*		●	
CORIA - CONSEIL ORG.			*	*			●	
CORT - CONSEIL EN ORG.			*		*		●	
COSMOS SOSAGI	*	*	*	*	*		●	
COTI CENTRE D'ORGANIS.	*		*	*	*	*	●	
COTM CENTRE D'ORG.	*	*		*			●	
C.P.T.G. CENTRE							●	
CREDINFOR	*	*	*		*	*	●	
CS							●	
C.R.T.I. -CENTRE REGIONAL	*	*		*		*	●	
C.S.E.E. -CIE DES SIGNAUX							●	
C.S.G. INFORM	*				*	*	●	
C.S.I. CENTRE DE SERVICES			*			*	●	
C2S -CONSULTANT					*		●	
CSS FRANCE	*	*	*		*		●	
C.T.C. INFORM.					*		●	
C.T.I.C.M			*	*			●	
C.T.P. CENTRE TECHNIQUE						*	●	
CYBCO			*				●	
DATAANALYS FRANCE	*		*	*	*	*	●	
DATA SERVICE						*	●	
DATASKIL				*	*		●	
D.C.S. DATA CONVERSION						*	●	
DECIS					*		●	
DELTA CONSULTANTS				*	*		●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
DELTA INTERNATIONAL							•	
DIAGMA							•	
DIEBOLD FRANCE					*		•	
DIFFUSION PHOTO-CINE							•	
DII-DUFFOUR ET IGON	*	*	*	*	*	*	•	
DUFOUR PIERRE					*		•	
ECA AUTOM.							•	
EDUVISION							•	
EGM ENTERPRISE						*	•	
ELECTRO-COMPTA/SECI	*	*	*	*	*	*	•	
ELMI INFORM.	*					*	•	
ELS-ETUDES LOGICAL							•	
E.M.T.I.	*					*	•	
EPOS -ETUDES ET PROG.				*	*		•	
ESCULIER GUY							•	
ETA-EXPLOITATION	*	*		*	*	*	•	
EUREQUIP							•	
EUREVISE					*		•	
EURINFOR	*		*	*			•	
EUROP FACILITIES			*		*	*	•	
EUROPE INFORM. Marseille				*	*		•	
EUROPE INFORM. Paris				*	*		•	
EUROP ORDINATEURS			*	*	*		•	
EUROSOFT SERVICE	*			*	*	*	•	
EUROSOFT SERVICE SUD OUEST	*			*	*	*	•	
EXPRESS EUROPE					*		•	
FID - INFORMATIQUE	*	*		*		*	•	
FIGOS					*	*	•	
FIME							•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
FINANCE ENGINEERING							●	
FONTAINE	*	*	*	*		*	●	
FRANCE COMPTABILITE	*	*	*	*	*		●	
FRANLAB	*	*	*	*	*	*	●	●
GAMMA INFORMATIQUE			*		*		●	
JEAN GARUTTI				*	*		●	
G -CAM	*	*	*	*	*	*	●	●
G.C.I. -GESTION	*	*		*		*	●	
GEDIM		*		*			●	
GEFAC INFORM.			*		*		●	
GEI-GESTION D'ETUDES							●	
GENERAL DE SERV.							●	
GEPSA-GERICO	*	*	*	*	*	*	●	
GESCO						*	●	
GESSYS - ATELIERS				*	*		●	
GESTA	*	*	*	*	*	*	●	
GESTELEC						*	●	
GESTION INTEGRALE	*	*		*	*		●	
GESTION SERVICE	*					*	●	
GEVEKE ELEC.			*				●	
GGC -GEORGES ET GILBERT				*	*		●	
G.I.B.							●	
GIR	*	*	*	*	*	*	●	
GIS-GESTION					*		●	
GIXI					*		●	
GMV-CONSEIL							●	
GROUPE GAMMA	*			*	*		●	
GROUPE J.R.							●	
GROUPEMENT	*	*	*	*	*	*	●	

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INFORAMA					*		•	
INFO RECHERCHE					*		•	
INFOREL							•	
INFORGAMA							•	
INFORGEST							•	
INFORMACO	*		*	*	*	*	•	
INFORMATIC SERVICE							•	
INFORMATICS FRANCE				*			•	
INFORMATINOR						*	•	
INFORMATIQUE ACTION							•	
INFORMATIQUE BOUCHARENC	*	*			*	*	•	
INFORM. ET ENTREPRISE		*		*	*		•	
INFORM. INTER ECOLES	*						•	
INFORM. INTERNATIONALE			*		*		•	
INFORM. BERNARD							•	
INFORM. METHODES					*		•	
INFORM. ET ORGANISATION	*	*	*	*	*	*	•	
INFORM. SERVICE	*	*	*	*	*	*	•	
INFORMATIQUE 75	*	*	*		*	*	•	
INFORMATIS			*		*		•	
INFO 2000			*	*	*		•	
INF 17	*		*	*	*	*	•	
IN'GEST	*		*		*	*	•	
INSTITUT AQUITAIN					*		•	
INTERFACE					*		•	
INTER INFORMATIQUE	*	*	*	*	*	*	•	
INTERRUPT SERVICE	*	*	*		*	*	•	
INTRALUDE FRANCE							•	
IOTA	*	*				*	•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
GROUPE SEGUR			*		*		•	
GROUPE SIGMA				*	*		•	
GROUP/3 EUROPE					*		•	
GROUPE OPERA							•	
GSI							•	•
GSIE-CFRO-STAD	*	*	*	*	*	*	•	
HAUTE LOIRE	*					*	•	
HB NETWORK	*	*		*	*	*	•	
HELP INFORMATIQUE					*		•	
HONEYWELL -See CII Honeywell-Bull							•	
I.A.M. INFORM.					*		•	
IBM SERVICE	*	*	*	*		*	•	
ICARE -SOC INFORM.	*	*	*	*	*		•	
I.C.I.A. INGENIEURS			*	*	*		•	
ICOREM							•	
ICS CONSEILS					*		•	
IFI INSTITUT							•	
I.G. CONSEIL			*	*			•	
IG INFORM	*		*	*	*	*	•	
I.G.A. INFORM.	*		*	*	*	*	•	
ILE DE FRANCE					*	*	•	
IMPACT	*	*	*	*	*		•	
IMPRIMERIE						*	•	
INCOTEL			*	*	*		•	
INFASS			*	*	*		•	
INF GESTION	*		*	*	*	*	•	
INFOALPHA	*	*					•	
INFOGES		*		*	*		•	
INFOLOR	*	*	*	*	*		•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
IPI INTEREUROPE			*	*	*		●	
IPMO INFORM.							●	
ISM INFORMATIQUE	*	*	*	*	*	*	●	
ISTA	*	*		*	*	*	●	
ISEM	*	*	*	*	*	*	●	
ITS -INFORMATION TRAITEMENT	*				*	*	●	
JACQUELIN ET CIE					*		●	
JOUVE-IMPRIMERIE							●	
J.P.B. SERVICES	*			*		*	●	
J.S. INFO	*				*		●	
KEARNEY MANAGEMENT			*		*		●	
KSA KURT SALMON ASSOCIATES					*		●	
LANG INFORM.	*	*	*	*	*	*	●	
LEANORD							●	
LERTIE			*	*	*		●	
LIR LOGICIEL					*		●	
LISTE UNION	*			*			●	
LMI LABORATOIRE							●	
LOGIC			*	*	*		●	
LOGIX						*	●	
LOGOFIA			*	*	*		●	
MANIC	*				*	*	●	
MANTES ORDINATEUR	*	*	*	*	*	*	●	
MARBEN INFORM.				*	*		●	
DANIEL MARTIN					*		●	
MATORG				*			●	
MBP DE FRANCE				*	*		●	
MECASOFT						*	●	
MEDICIS	*	*	*	*	*	*	●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
MICROFILM FRANCE							•	
MICROGEST							•	
MICROLIST							•	
MIKROS			*	*	*		•	
MANACO COMPUTING	*	*	*	*	*	*	•	
M.O.S. MANAGEMENT			*	*	*		•	
M3P INFOR			*	*	*		•	
MTI OUEST	*	*	*	*	*	*	•	
NATEL SA	*	*	*	*	*	*	•	
NATIONAL CSS - see CSS France							•	
NOLPA	*			*	*	*	•	
NORD INFORM.	*				*	*	•	
NORD SAISIE						*	•	
NOVACTION							•	
OBBO				*	*		•	
OBBO EDITIONS				*	*		•	
O.B.M.							•	
OFIA -OFFICE FRANCAIS	*			*		*	•	
OGIP ORGANISATION	*	*		*	*	*	•	
OGMI-ORGANISATION							•	
OIO-ORGANISATION ET					*		•	
ONERA-CERT-CENTRE	*	*			*		•	
OPUS 2000 MANAGEMENT			*		*		•	
ORDIFRANCE OUEST	*	*	*	*	*	*	•	
ORDIMATIC	*		*	*	*	*	•	
ORDINA			*		*		•	
ORDINA 2			*		*		•	
ORDINATEURS EXPRESS							•	
ORDINORD INFORM.	*		*	*	*	*	•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
ORDI-OUEST	*	*	*	*	*	*	•	
ORDIS					*		•	
ORDISOR	*			*	*	*	•	
ORGAMA CONS.							•	
ORSID						*	•	
ORTIC	*	*		*	*		•	
OTEPROS	*	*	*	*	*	*	•	
OUEST INFORM.							•	
OUEST SAISIE						*	•	
OUEST-VIANDE	*			*	*	*	•	
P.A. CONSEILLERS DE				*	*		•	
PACTEL	*			*	*		•	
PANSOPHIC	*			*			•	
PERFELEC TOURS	*					*	•	
PERFO	*		*	*	*	*	•	
PERFO-INFORM	*					*	•	
PERFOFAC						*	•	
PERFOLOR						*	•	
PERISCOPE					*	*	•	
PGI PARIS DISTRICT					*		•	
PHINELEC	*					*	•	
PIERRE MICROFILM	*					*	•	
PLURI DATA	*		*	*	*	*	•	
PORE-INFORM.	*		*	*			•	
PRAXYS ROUTAGE	*						•	
PRESENCE ET GESTION			*	*	*		•	
PRESSE INFORMATIQUE						*	•	
PRODUCTION SYSTEMES	*	*			*		•	
PROMATEC	*		*	*	*	*	•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
PUNCH SERVICE	*		*	*	*	*	●	
QUARTERNAIRE	*	*	*	*	*	*	●	
READY'S						*	●	
REALISATIONS INFORM.			*		*		●	
REL-CONSULTANTS			*	*	*	*	●	
RHAMA	*	*		*		*	●	
ROMANS INFORM.	*	*		*		*	●	
S.A.G.I.	*	*		*		*	●	
SAGIR	*	*	*	*	*		●	
S.A.I.C.	*	*	*	*	*	*	●	
ST. PAUL FIRE AND MARINE							●	
SAISINFOR							●	
SAMO INFORM.							●	
SAMPOG	*			*		*	●	
SAPIAC INFORM.	*	*	*	*	*		●	
SATAM	*	*	*	*	*	*	●	
SCAM	*	*		*		*	●	
SCOD SOCIETE			*	*	*		●	
SCOFI				*			●	
SCOGI SOC			*	*	*	*	●	
SCOLOG			*	*	*		●	
SCRIM SOCIETE		*	*		*		●	
SDIG			*	*	*		●	
SECA SOCIETE	*	*		*		*	●	
SECAPA			*	*	*		●	
SEDAP SOC.							●	
SEDEP	*			*	*	*	●	
SEDEP INFORM.	*	*				*	●	
SEDINFORMATIQUE						*	●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
SEDIT INFORM.	*		*	*	*	*	●	
SEETI-SOCIETE							●	
SEFCO	*	*	*	*	*	*	●	
SEFIM STE D'EXPLOITATION							●	
SEGA-SOCIETE DE			*	*			●	
SEGIA							●	
SEGIN	*				*		●	
SEGIR ISO	*	*	*	*	*	*	●	
SEMA INFORM.		*	*	*	*	*	●	
SEMI-SOC	*	*	*	*	*	*	●	
SEPT INFORM.	*	*	*	*	*	*	●	
SERCOSTA	*	*	*	*	*	*	●	
SERDIG				*		*	●	
SERGI			*	*	*		●	
SERIG INFORM	*	*	*	*	*		●	
SERIGIF						*	●	
SERIME	*	*	*	*	*	*	●	
SERLOG SOCIETE				*	*		●	
SERTI					*		●	
SERVICE FORMATION					*		●	
SERVICE INFORM.	*	*		*	*		●	
SERVICE SOFTWARE	*						●	
SESA			*	*	*		●	
SESI						*	●	
SETEC-INFORMATIQUE	*	*		*	*	*	●	
SETM							●	
SEVE						*	●	
SFICA							●	
SGIP SOCIETE			*				●	

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CAMP SERVICES INDEX

COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
S.G.N. SOCIETE					*		●	
S.G.S. SOC.	*		*	*	*	*	●	
S.G.2.	*	*	*	*	*	*	●	●
SIAGE-STE			*		*		●	
SIB-SERVICES	*					*	●	
S.I.B.B. INFORM.						*	●	
SICA						*	●	
SICORFE	*	*		*	*		●	
SIG-SYSTEMES	*	*	*		*	*	●	
SIGAP FRANCE				*			●	
SIGMA INF. - Sur Erdre	*	*		*			●	
SIGMA INF. Bergerac	*			*		*	●	
SIMAG			*	*	*		●	
SINCIR							●	
SIS-SOCIETE	*	*	*	*	*		●	
SISRO			*	*	*		●	
SISTEM	*		*	*	*	*	●	
SITB	*	*	*		*	*	●	
SLIGOS	*	*	*	*	*	*	●	●
SNEDA SOCIETE	*						●	
S.N.I.E. SOCIETE			*		*		●	
S.O.C.A.M.						*	●	
SOCETAM	*	*	*	*	*	*	●	
SOCIETE NORBERT							●	
SOCIETE MECANOGRAPHIQUE				*			●	
SODAM STE D'ORGANISATION.	*	*	*	*	*	*	●	
SODETEG TAI-TRANSMISSION			*		*		●	
SODIG-STE POUR LE DEV.			*	*	*		●	
SOFRAGEM	*	*	*	*	*		●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
SOFRIG STE	*	*	*	*	*		●	
SOGEB INFORM	*						●	
SOGECIM.	*	*		*	*	*	●	
SOGECOR	*	*		*		*	●	
SOGELL	*	*	*	*	*	*	●	
SOGEM	*	*		*	*	*	●	
SO.GE.OR	*		*	*	*	*	●	
SOGI SERVICE	*		*	*	*	*	●	
SOGIA	*		*	*	*	*	●	
SOGIF						*	●	
SOGIR							●	
SOLVA	*		*	*	*		●	
SOMAVI							●	
SOPEMEA	*			*		*	●	
SOPRA	*	*	*	*	*	*	●	
SORINFOR							●	
SORESE						*	●	
S.O.S. PERFO	*			*	*	*	●	
SOSI SOCIETE					*		●	
SOTEP						*	●	
SOTIAF INFORM.	*	*	*	*	*	*	●	
SOTIEG -STE				*			●	
SOTRAM	*	*		*	*		●	
SOTRAME						*	●	
SOTRIN						*	●	
SPI		*	*	*	*		●	
SPV INFORM.							●	
SSCI		*	*	*	*		●	
SSE-SOCIETE DE SAISIE	*		*	*	*	*	●	

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CAMP SERVICES INDEX

COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
STATIRO			*	*	*	*	●	
STERIA			*		*		●	
STI SOCIETE DU TRAITEMENT			*	*	*		●	
STIM STE	*	*	*	*	*	*	●	
STIME							●	
STM	*						●	
STRUCTURES					*		●	
SYBEX-EUROPE					*		●	
SYDEL					*		●	
SYNTEGRAL			*	*	*		●	
SYNTHESE							●	
SYSIN-SYSTEMES			*	*	*		●	
SYTEC			*	*	*		●	
R.A. SZMANIA							●	
TASCO			*	*	*		●	
TECSI SOFTWARE				*	*		●	
TELESYSTEMES			*	*	*		●	
TELSYS INFORM.	*	*		*	*	*	●	
TEM TRAVAUX ETUDES							●	
TESDATA			*	*	*		●	
TESSI TRAITEMENT						*	●	
TIGEST	*		*	*	*	*	●	
TIM INFO	*					*	●	
TIP TRAITEMENT				*	*		●	
TITN TRAITEMENT			*	*	*		●	
TOM	*	*	*	*	*	*	●	
TORE-TRAITEMENT	*		*	*	*		●	
TOUS LES SERVICES			*	*	*	*	●	
TRAIT INFORMATIQUE	*	*	*	*	*	*	●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
TRAITEMENT INFORMATIQUE	*		*	*	*	*	●	
TRINDEL			*	*			●	
UCC	*	*					●	
UCFM	*		*	*	*	*	●	
UNION ADRESSE	*	*	*	*	*	*	●	
URGENCE INFORM.			*		*		●	
UTIMACO	*					*	●	
UTI SERVICES	*	*	*	*	*		●	
VALGOS CONSEIL			*	*	*		●	
VOSGES ORDINATEUR	*		*	*	*	*	●	
WESTINGHOUSE MANAGE.					*		●	
YONNE MECANOGRAPHIE	*		*		*	*	●	

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COMPANY PROFILE

ALLIANCE INFORMATIQUE
Tour Neptune
92086 PARIS LA DEFENSE

Tel : 776-43-13

President: Mr Hugoo
Director General: Mr Rouet
Total Turnover 1978: 75MF
Total Staff: 370

THE COMPANY

- In 1973, SCICON, a subsidiary of British Petroleum, bought SETM and in 1976 BPS's French group SFBP, decided to create an informatics department in the form of Alliance Informatique. BP then decided to take a shareholding of just under 50% in GFI (Le Groupement Francais d'Informatique) and Alliance became a subsidiary of that company. The other major shareholders in GFI are Banque Francaise and Schlumberger.

- In 1978, Alliance Informatique had a sales turnover of some 75MF.

ORGANISATION & STAFF

- For the GFI group as a whole, the staff is approximately 600. Alliance has just over half of all staff in the group (310) and of these, 100 are technical people.

- The organisation chart is shown as Annexe - Alliance/A.

- The greatest strength of the organisation lies in the department for mini-computers. The company is not just a service bureau. It has a substantial systems consultancy and development capacity which is only partially concerned with the mainframe bureau services.

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HARDWARE

- The mainframes at Alliance's offices comprise an IBM 370/158 bi-processor and an IBM 370/155. Located in another building is another 370/158 for back-up purposes.

- There are two RJE terminals connected locally in the building.

- The tape drives and printers are controlled independently of the main console under two special software enhancements provided by Alliance. The tape usage and printing load is exceptionally high.

- For security, Alliance participates with other industrial companies in another computer complex consisting of a 4 Mb IBM 370/168 and a 2 Mb IBM 370/148.

- The 370/158 bi-processor configuration is shown as Annexe-B.

NETWORK AND TERMINALS

- Alliance's IBM 370/155 is used mainly for interactive services and there are some 300 terminals in the field which access it. The RJE terminals (about 15) are normally connected to the IBM 370/158 bi-processor.

- Back-up to the network involves a switchover to the auxiliary 370/158. Should this requirement arise, on practice about 1 hour is needed to transfer disc & tape files. This has occurred only once in the last 3 years.

- Most of the main regional towns have either interactive or RJE access to the Alliance computer centre.

- The RJE terminals range from the IBM 2780 simple hardwired terminal to an IBM 370/125 small mainframe.

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KEY PRODUCTS AND SERVICES

- The majority of machine usage is taken up, running standard accounting packages. The major real-time application is for Renault and concerns spare parts inventory control.

- Key package products are:

  - o Accounting
  - o Assets Management
  - o Invoicing
  - o Payroll

- Also a package ("FAST") was developed by BP for financial modelling.

- The professional services staff undertake a good deal of customised applications development, both for the minicomputer division and for external clients.

- The minicomputer division operates on a turnkey basis and the minicomputer models involved are:

  CII - Honeywell Bull
  DEC
  HP
  IBM
  INFOREX
  INTERTECHNIQUE
  OLIVETTI

- Service Availability

Systems availability is 24 hours a day, Sundays included. The records of service reliability were examined by INPUT and it was apparent that the major losses of system availability over the last two years were caused by (i) electrical power failure and (ii) strikes (mostly by electrical power workers).

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MARKETING

- BP is a very large captive customer. Alliance did not disclose just how large a customer they are, but it would appear that BP is providing as much as 40% of Alliance's business. Alliance therefore needs to broaden its customer base, beyond its current size of 400 customers. The company has been developing strongly the minicomputer operation, which it sees as complementary to its bureau activities. An interactive accounting package is now available for the minicomputers, an obvious step towards entering the developing market for user site hardware services.

- Alliance's Market strategy is to concentrate on commercial data processing applications, on the provision of computer time on a batch or RJE basis, and on the provision of special real-time applications. The objective is to maintain 5th or 6th position in the league of computer service bureaux in France.

- The commercial sectors that Alliance believes are of key importance are:

  - Banking & Finance
  - Petroleum
  - Shipping
  - Mechanical Industry
  - Food Distribution
  - Public Works
  - Training

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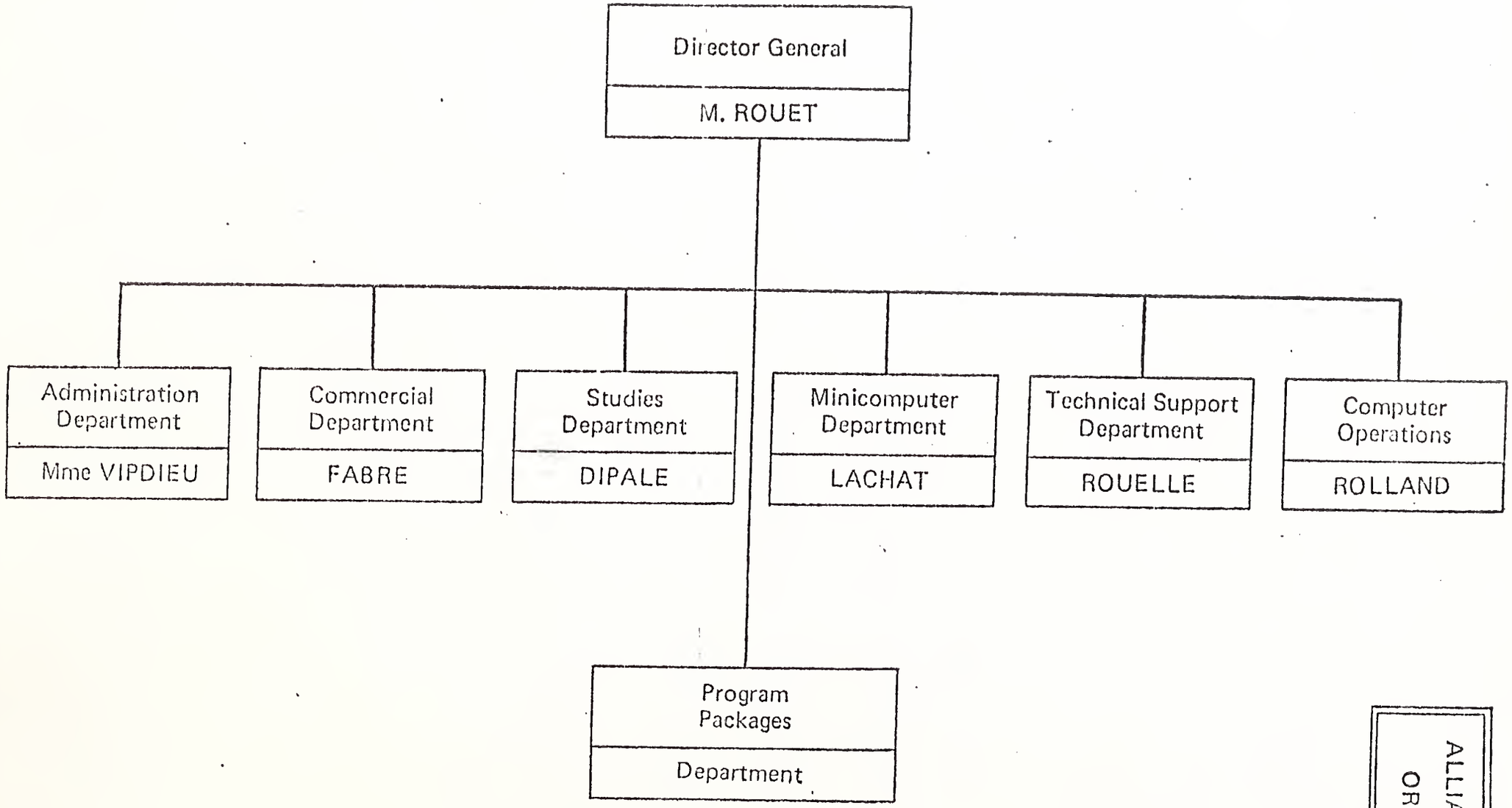


ALLIANCE IN FORMATIQUE
ORGANISATION CHART

Staffing: Technical 100
Other 210

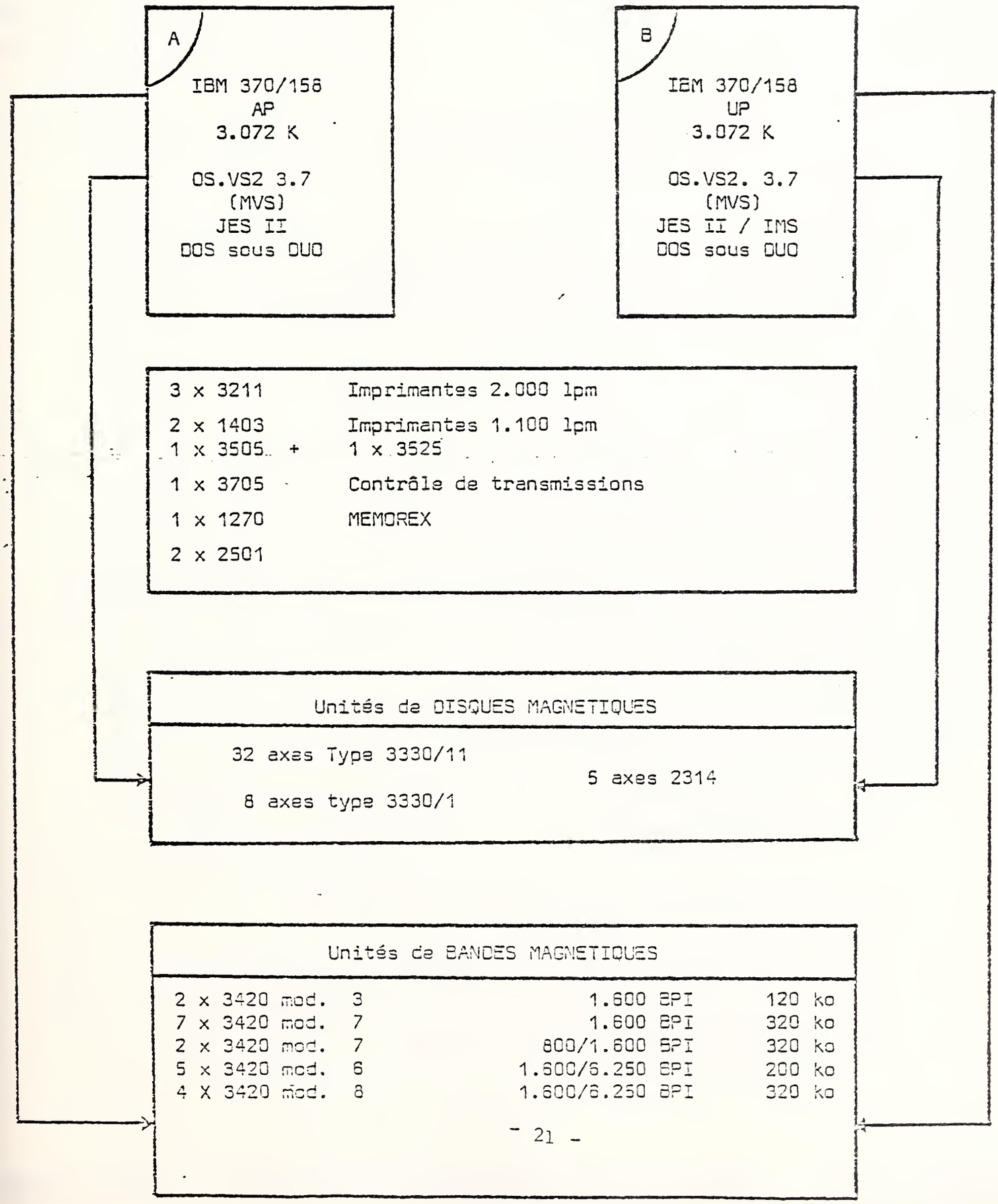
TOTAL 310

Staffing for GFI Group = 600

ANNEXE - ALLIANCE/B

ALLIANCE INFORMATIQUE

CENTRE ORDINATEURS
TOUR NEPTUNE
CONFIGURATION AU 1.01.1979



COMPANY PROFILE

FRANLAB INFORMATIQUE
232 av. Napoleon Bonaparte
92500 Rueil Malmaison

Tel: 977-02-73

President : M. Allegre
Director of Computer Ops: G. Frachon
Director of Applications : M. Lanchon
Total Turnover (1977) : 59.5 m.F
Total Staff: 141

THE COMPANY

- FRANLAB was originally founded as Francolab but in 1963 it was bought by a consortium (see below)and renamed Franlab Informatique:

ISIS	65%
SG2	20%
Societe National Elf Aquitaine	15%

In 1979, Franlab was acquired by CISI.

- IFP also has a holding, administered through ISIS (in which IFP has 82.2% control). The other ISIS shareholders are BNP (6.9%), Credit Lyonnais 6.4% and Societe Generale (4.5%).

- There are two FRANLAB companies:

  - o Franlab Informatique (65% controlled by ISIS)
  - o Franlab Consultant (100% controlled by ISIS)

This report is concerned with Franlab Informatique only.

- In 1977 sales turnover was 50 MF and Franlab has offices in Paris, Lyon, Nantes, Nice and Germany. It has formed a new subsidiary AF Marine in the UK in association with W.S. Atkins & Partners.

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ORGANISATION AND STAFF

- The organisation is presently very fluid since key changes are taking place. The best illustration that could be given is shown as Annexe A. There is a staff of 141 persons, including over 60 computer applications engineers.

HARDWARE

- The central processor at Rueil Malmaison is a CDC 7600 mainframe, front-ended by a Cyber 72 and Cyber 171.

- The CDC 7600 main processor is a 60-bit word machine and comprises 9 parallel units with a basic instruction cycle time of 27.5 namoseconds (NS). It has two memories. The SCM has a 275ns cycle time and a capacity of 65,536 words whereas the LCM has a 1760 cycle time and a capacity of 512,000 words.

- The Cyber 171 and 72 both are 60-bit word machines. The memory sizes are 131,072 words for the Cyber 171 and 98,304 words for the Cyber 72. The Cyber 171 has a cycle time of 400ns whereas the Cyber 72 has only a 1000ns basic cycle time.

- A feature of CDC machines is their use of multiple peripheral processing units (ppu) for I/O control. The 7600 has 6 ppu's with 4 high speed channels which operate at 36 million characters per second (mcs). The Cyber 171 has 10 ppu's and 12 I/O channels operating at a speed of 4mcs and the Cyber 72 has 14 ppu's with 24 I/O channels operating at 2 mcs.

- The disk drives are as follows:

	No. Spindles	Capacity (Mc)	Average Access
CDC 7600	4	400	50
Cyber 171	10	200	30
Cyber 72	4	100	30

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- In addition, the Cyber 72 controls the magnetic tapes and slow speed peripherals.

- There are 10 magnetic tape drives (two are 7 track) operating at densities up to 1600 bp; there are also two card readers, one card punch and three 2000 lpm printers. In addition, there is a large plotter, installed for scale drawings.

NETWORK AND TERMINALS

- The central complex provides 132 synchronous ports (1200 to 9600 BPS) and 60 asynchronous ports (110 to 2400 BPS). Both the Cyber 171 and the Cyber 72 support the network.

- With both slow speed interactive and fast remote batch terminals with network access to the central complex and a data link to AF Marine in the UK, Franlab has an ideal facility for engineers scientists and research workers needing very fast processing and the extra flexibility of a word based machine for scientific work, available remotely on a fast turnaround basis.

- The RJE terminals can read cards at 150 to 600 cards per minute and print at speeds from 60 to 600 lines per minute. There are also some remote plotters installed by clients.

KEY PRODUCTS AND SERVICES

- Franlab has grown from consultancies expertise in petroleum and marine engineering. In these areas there is considerable scope for the use of large computers to solve complex mathmatical and mathematical modelling problems. Franlab is not in the business of providing commercial data processing services, thus there is not a variety of payroll and accounting packages in its library.

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- Its principal services are:

  - o specialist computing and engineering applications expertise in the problem areas found in petrochemical and marine offshore activities.

  - o management consultancy and applications assistance in problems of financial planning, project control, investment decision analysis, sales forecasting and personnel planning.

  - o raw computer time in batch, remote batch and interactive modes.

Service Availability

- Monday to Saturday 9 a.m. to 2 a.m.
  Sundays - usually not, but by arrangement.

MARKETING

- The market emphasis is shown clearly by the number of programs in each classified section shown in Annexe-B which is an analysis of the program library. Particular strengths emerge in:

  - o Mechanical Applications
  - o Marine Hydrodynamics
  - o Decision Assistance
  - o Data Analysis
  - o Forecasting and Management Information.

- Marketing is aimed at the specialist sectors of the market able to use very high power facilities. Clearly the government meteorology and research establishments, the chemical and oil industries and construction contractors/consultants are all key market for FRANLAB services.

- The turnover per employee was 357 KF per head in 1977, a high value in the sample of companies interviewed. This is due to (i) the strong scientific application orientation and (ii) the very high machine power available.

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ANNEXE - FRANLAB/B

APPLICATIONS AND SOFTWARE

Note: numbers in parentheses indicate the number of programmes available in the category.

1. **Languages & Utilities (14)**
   - Languages (BASIC, COBOL, FORTRAN)
   - Utilities (file handling)
   - Libraries (Mathematical and Plotting subroutines)

2. **Mechanical Applications (32)**
   - Finite Element Analysis
   - Finite Differences
   - Finite element and integral equations
   - Reinforced Concrete
   - Plotting and mesh programs
   - Special Programs (Pipe Stressing, Flange Design, ground construction)
   - Thermal Stress Analysis
   - Structural Analysis

3. **Marine Hydrodynamics (23)**
   - Wave Models
   - Hydrodynamic Forces - Large bodies
   - Hydrodynamics Forces - Frame structures
   - Simulation of behaviour of structures at sea
   - Mooring
   - Pipe Laying
   - Liquid Motion in Tanks
   - Meteorology, Climatology, Oceanography
   - Refraction - Harbours
   - Pollution

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4. **Reservoirs (6)**
   - Simulation models
   - Thermodynamic equilibrium calculations

5. **Chemical Engineering (1)**
   - Petrochemical Unit design

6. **Accounting (2)**
   - Accounting
   - Payroll

7. **Decision Assistance (9)**
   - Linear Programming
   - Distribution
   - Scheduling

8. **Data Analysis (12)**
   - Poll Analysis
   - Cartography

9. **Management Information (5)**
   - Data Bank
   - Automatic Documentation

10. **Forecasting (5)**
    - Economic & market models
    - Short term sales forecasting
    - Long time series
    - Optimisation of funding

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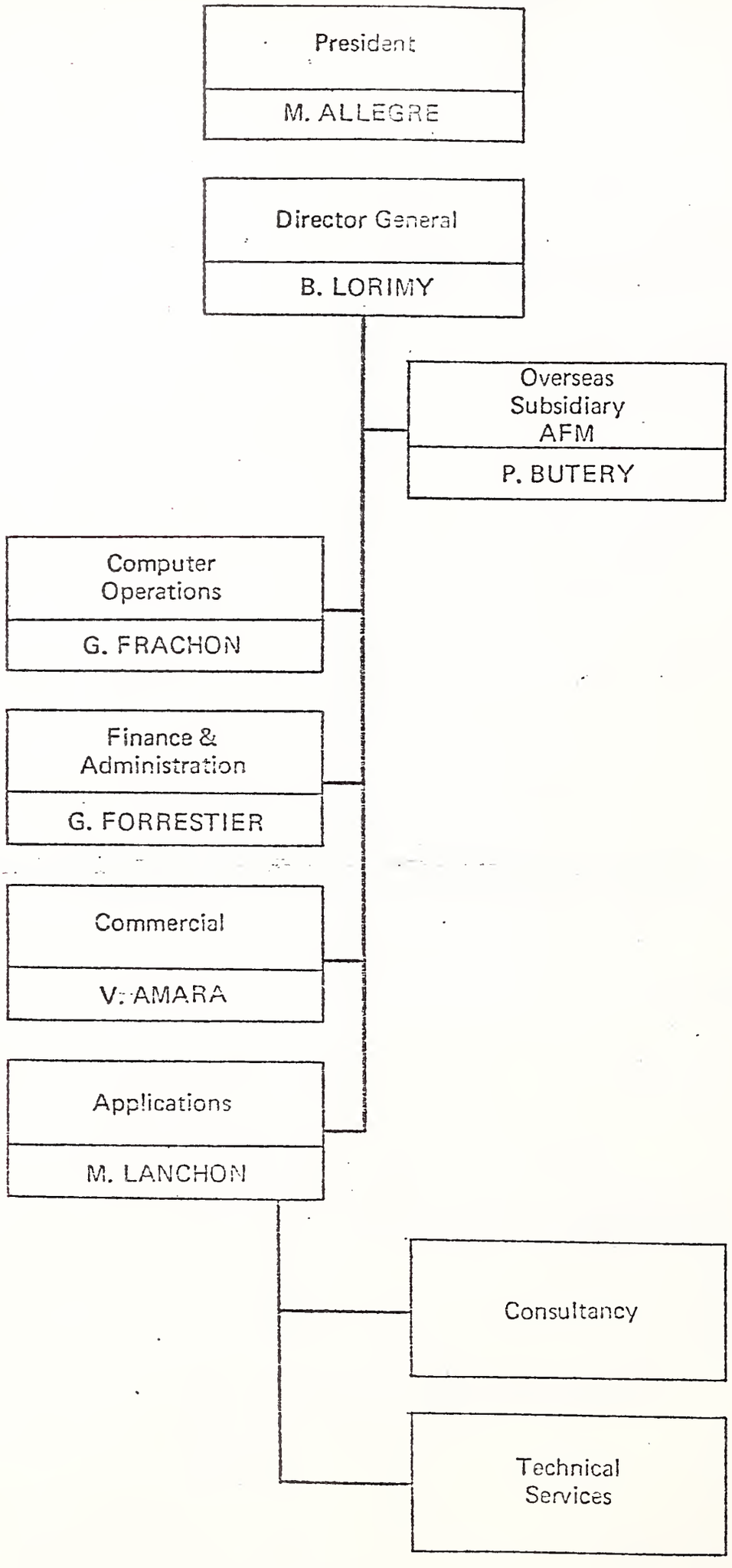
ANNEXE – FRANLAB/A

ORGANISATION CHART



Staffing:

Computer Operations	50
Applications	60
Admin./Finance	20
Commercial	15
Total	145

June 1979

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COMPANY HIGHLIGHT

G-CAM
113, rue Jean Marin Naudin
92220 BAGNEUX
Tel : 664-10-04

Andre BOUZY
Managing Director
Total 1978 Sales : $12.9M
Total Staff : 160

THE COMPANY

- G-CAM (Groupement de la Caisse des Depots - Automatisation pour le Management) was created in 1970 by the Caisse des Depots to assist Public and Private enterprises established in France. It is part of the CAMP/G-CAM/SINORG group which forms the EDP structure of the Caisse des Depots.

AFFILIATES AND SUBSIDIARIES

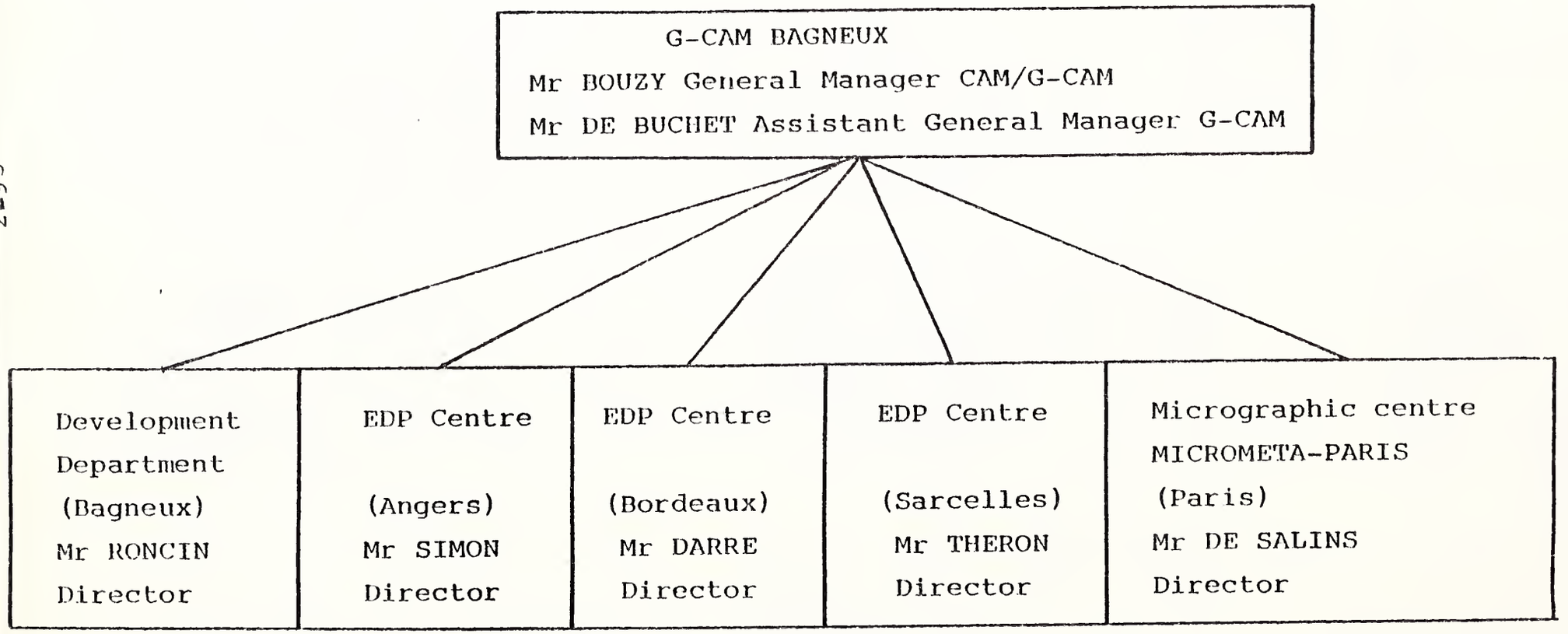
- G-CAM is composed of a group of 8 partners :
  - Deposit and Consignment bank (Caisse des Depots et Consignations)
  - Society for the Aid for Community Development (Societe Centrale d'Aide au Developpement des Collectivites)
  - Building Society of the Deposit and Consignment bank (Societe Centrale Immobiliere de la Caisse des Depots)
  - Society for the equipment of the State Territory (Societe Centrale pour l'Equipement du Territoire)
  - Society for the equipment of the International Territory
  - Research department for the Economic and Social Development (Societe d'Etudes pour le Developpement Economique et Social)
  - Holiday-Villages-Tourisme (Village-Vacances-Tourisme)
  - National Building Society (Societe Nationale Immobiliere)

- The department's methodology places its EDP services in the wider optic of consultancy and research :
  - Planning problems caused by the evolution of structures
  - Proposals for solutions compatible with staff, structures and materials
  - Installation of the EDP system chosen by the client, use of G-Cam bureaux-services, minicomputer, medium or large system implantation.
  - Recruiting and/or education of personnel
  - System maintenance

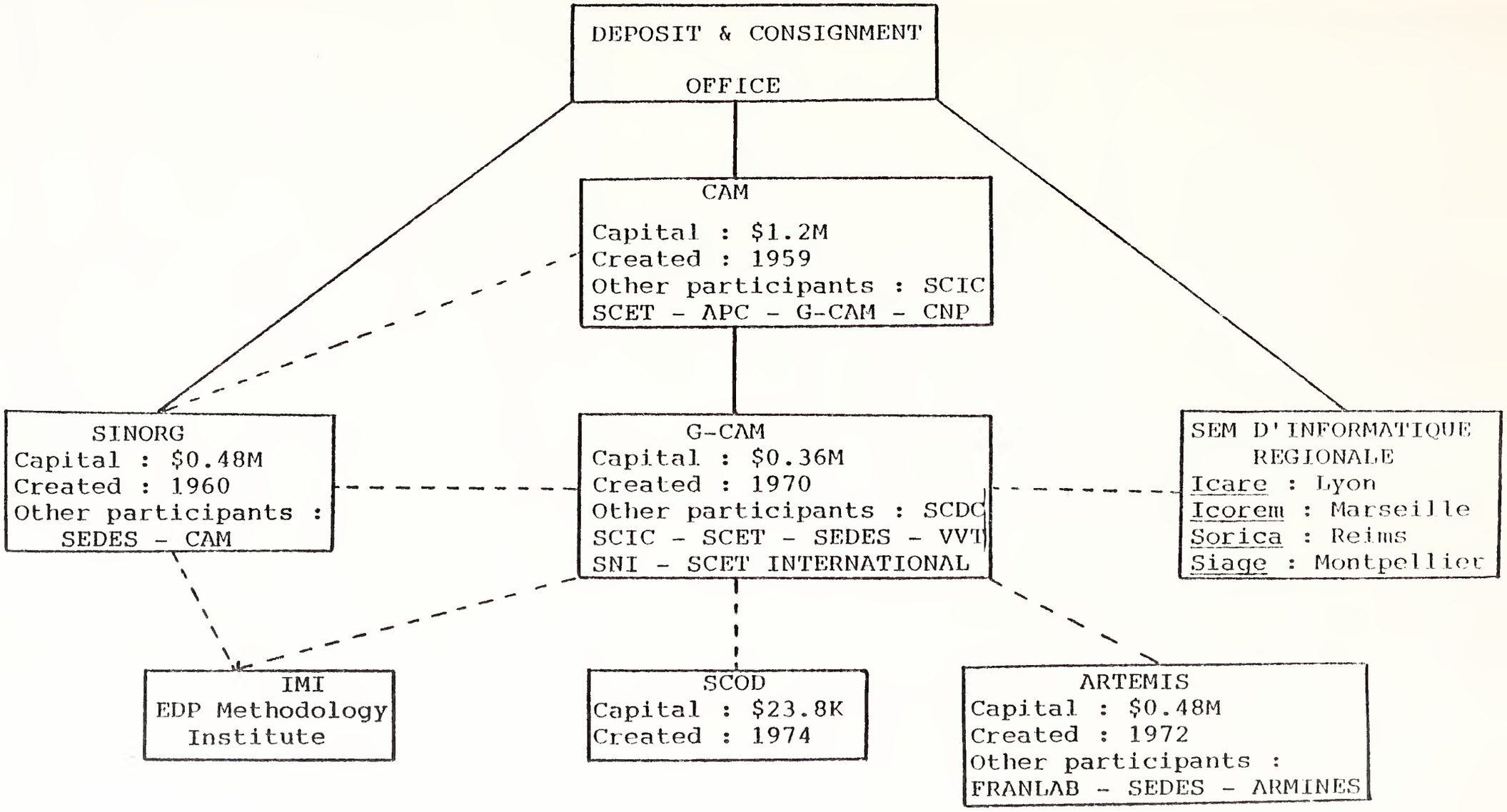
This approach allows the department to evaluate the entire problem. Furthermore, the in-depth knowledge of the related sector is a guarantee of the accuracy of the proposed solutions.

- The skills of the Development Department include :
  - Consultancy, assistance and analysis
    - o Design, consultancy, audit
    - o Project scoping and specifications
    - o Analysis support
    - o Programming and implementation assistance
    - o Consultancy in recruiting and education staff
    - o Methodology
    - o Equipment selection (Computers-Minicomputers-Accounting machines)
  - Turnkey system development with an option, for those companies not yet able to assume responsibility for the system developed, for a Facilities Management contract.
  - Development of application software which are customised so as to reduce the implementation delay and offer a bett price/performance ratio. These applications are applicab to the small and medium-sized companies, as well as the large companies.

G-CAM ORGANISATION



DEPOSIT AND CONSIGNMENT EDP NETWORK



- The G-CAM network consists of :
  (i) Three EDP centres : Angers, Bordeaux, Sarcelles
  (ii) Regional Data Capture centres : Montpellier, Nantes, Reims
  (iii) A Research and Development department in Paris
  (iv) A Micrographic centre in Paris
  (v) Two subsidiary companies, ARTEMIS and SCOD. SCOD builds "Turnkey" systems.

- The total staff of all associates amounts to nearly 800. (see organisation overleaf)

HARDWARE

- Paris Area :
  - Sarcelles 1 x IBM 370/135
    1 x IBM 370/138
  - Micrometa Micrographic/microfilm centre
  - Artemis (Fontainebleau)
    1 x IBM 370/158
- Provinces :
  - Angers 1 x IBM 370/135
  - Bordeaux 1 x IBM 370/135
    (Projected 1 x CII-HB)
  - Plus various systems at clients'sites

KEY SERVICES

- In order to meet specific demands, the Development department is structured by sectors :
  a) Notaries
  b) Public sector
  c) Local communities
  d) Mutual Insurance companies
  e) Subsidiaries of the Deposit and Consignment office
  f) Private sector

COMPANY PROFILE

GSI GENERALE DE SERVICE INFORMATIQUE
127 Avenue Charles de Gaulle
92200 Neuilly

Tel: 758-97-50

President: Jacques Raiman
Total group turnover (1979): 600MF
Total Staff: 2900 (Group)

CS INFORMATIC
14 Rue Forest
75018 Paris

Tel: 292-02-77

Director General: M. Genovesi

THE COMPANY

- GSI is the second largest computer services organisation in Europe and is of French origin. The organisation is multi-national and in total now encompasses 2900 staff and a combined group turnover of 600 MF (budget 1979). These figures include a recent acquisition, NATEL, which itself is budgeted to produce a revenue of 150 MF from 900 staff. The turnover of GSI is therefore expected to be in excess 400 MF without NATEL.

- GSI was formed in 1971 from two companies, CSI and III (Institut International d'Informatique). Today, excluding NATEL, it comprises 20 subsidiaries or branches in France and seven overseas subsidiaries which are:

Country	Subsidiary	Maniframe Vendor
Italy	Elaborazione Automatica Dati (EAD)	Siemens
Germany	Datel Gmbh	Siemens
UK	CRC Information Systems Ltd	Xerox
Switzerland	GSI - Suisse	IBM
USA	GSI - USA Inc	DEC
Belgium	Interdata	IBM
Spain	Seresco	IBM

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- GSI is owned 52% by the French electrical company CGE and 24% each is held by Societe Generale and Credit Commerciale de France.

ORGANISATION & PERSONNEL

- The breakdown of Personnel is as follows:

GSI France		
Administration	10	
Sales	100	
Managers	100	
Analysts/Programmers	300	
Computer Operations	990	
	1500	
GSI International		500
GROUP TOTAL		2000

- It is apparent from these figures that the majority of revenue is derived from bureau operations rather than from the work of analysts and programmers directly. The new acquisition NATEL was approximately 900 staff. Thus GSI inclusive of NATEL was 2900 staff which will make it the largest computer services organisation in Europe in 1979.

HARDWARE

- There are in Europe some 40 substantial mainframes of significance of which 20 are located in France. The principal vendors by location are:

o	Paris Locations	IBM 370's and Univac 1108
o	Grenoble	Itel AS6
o	CRC Ltd (UK)	XDS Sigma 9's
o	Italy & Germany	Siemens 4000 series
o	Switzerland/Belgium	IBM
o	Seresco (Spain)	IBM

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- GSI is planning to phase out the Sigma 9's in use for scientific time sharing. The plan is to offer customers a choice of DEC 2020 or IBM 4300 machines to run in-house some of the applications that formerly ran on the SIGMA machines maintained by Honeywell since it took over RXDS customer base. Honeywell's maintenance agreement expires in 1983.

CS Informatic Hardware

- There are two IBM 370/155's (3 MB), one PDP11/70 operating as a front end processor to one of the 370's and an Interdata minicomputer.

- The 370's are hardware enhanced with M1 on one system and M2 plus DATBOX on the other. There are 16 tape drives, 6 x 800 MB STC fixed disc drives and a bank of Memorex (IBM 3330 equivalent) 100 MB exchangeable disc drives. In addition, there are four IBM 1403 line printers and a Data 100 terminal. A high speed back-up link is available to another 370 in Paris.

- One of the 370's operates as a real-time system providing synchronous 9600 BPS data communications facilities with vdu terminals. One major user of this facility is Renault with 20 vdu terminals installed. The other 370 is front ended by the PDP 11/70 which provides 16 ports to a synchronous network.

- Plans exist to replace the two 370/155's with either an Amdahl 470/V6 or an Itel A6. A decision is to be made shortly.

NETWORK & TERMINALS

- There is a strong emphasis on the developing time sharing network which links forty European cities including ten in the UK and six in Germany. On-line applications highlighted include seat reservations, financial consolidatiion, banking and stock exchange services and on-line supply and demand matching.

- GSI claim their network can be accessed from almost any type of terminal.

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KEY PRODUCTS AND SERVICES

- Vehicle Dealers

GSI is helping over 600 dealers selling automobile, commercial vehicle and farming equipment with a package called IDS.

- Turnkey Systems

"TOLAS" is the brand name for the DEC-based turnkey system produced by GSI Inc. Through GSI's subsidiary Transcomm, the TOLAS system is being applied in Europe. It is particularly designed for the distribution industry.

- Classic Accounting/Payroll Services

GSI has considerable strengths in this area partly due to the way if has grown by acquisition from bureaux who provide the basic payroll, sales, purchase and nominal ledger accounting services. The package name ZADIG encompasses these packages. GSI operates the largest payroll service in France.

- Scientific Applications

Computer aided design and market research analysis are two of the simili-scientific applications offered. With GSI's background, its main emphasis must be the use of science in commercial and business applications rather than in scientific approaches to engineering problems. Computer aided design is one of the exception's to this trend.

- Banking Applications

GSI in Switzerland has developed a specialist real-time banking systems package. Some 80% of GSI Suisse's revenue comes from the banking sector.

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- Text Processing & Information Retrieval

  Using IBM's STAIRS package, a judicial database is being constructed.

- Service Availability

- 24 hour service for Batch and RJE, Monday through Saturday.

- No Sunday working, except by arrangement.

- Some public holidays not worked.

MARKETING

- Of the 400 MF sales turnover for GSI (excluding NATEL) 80% or 320 MF is produced by GSI France and 20% by GSI International.

- National operations can be divided into:

		MF
-	Provincial Sales	90
-	Paris - Large Company Sales	150
-	Paris - Small Company Sales	80
	TOTAL	320 MF

- With the exception of GSI Inc, all companies are primarily general or special purpose computer bureaux. GSI Inc. is a turnkey systems house which specialises in the supply of DEC 11-based systems.

- The Belgian and Italian bureaux are classic general service bureaux providing payroll and accounting services. Seresco is one of the largest service bureaux in Spain. Datel in Germany provides specialised package services to operators. CRC in the UK specialises in scientific time sharing services.

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- Product Orientation

  - GSI's marketing strategy is firmly product orientated;they are not primarily interested in selling advice. Clients are "steered" towards package solutions as appropriate and custom tailoring is carried out where necesary.

  - GSI sees client processing as having three phases of evolution:

    Phase 1: Development of basic payroll and accounting systems.

    Phase 2: Development of "Operating" applications outside the accounts function. Examples include order processing, reservation systems and production planning and control.

    Phase 3: The re-development of accounting systems with emphasis on integration of budgets, financial accounting and management accounting. Examples include sophisticated operating statements giving budget and actual comparisons with year on year comparisons, financial plans and automatic draft budget generation. Improvements will also include increased use of on-line VDU enquiry facilities and in the 80's, more emphasis on financial planning models, financial control and decision assisting systems.

- Broadly, the belief is that the early accounting systems do little more than basic book-keeping. Now the future emphasis is on re-development of key systems to make applications fit management and operating needs more closely. New products are required (and are being developed).

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- Rationalisation

GSI is harmonising its image, after many years of acquisition and standardising, where possible, hardware and software products. CRC, the UK subsidiary, has now been re-named GSI UK Ltd and the RXDS hardware is to be phased out and replaced with DEC 2020 and IBM 4300 series mainframes. The DEC 2020 has been selected in preference to the Sigma Compatible CP-V operating system developed by Honeywell even though this software package enables a smooth transition from Sigma series machines to the Honeywell level 66 equipment. This move follows a similar move by ADP (Automatic Data Processing) for the use of DEC 2020 systems which are fully compatible with the DEC 10 time sharing equipment.

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COMPANY PROFILE

Societe Generale de Service et de Gestion (SG2)
12 Avenue Vion-Whitcomb
75016 Paris

Tel: 521-52-22 SG2

President : Mr. Lhermitte
Director General : Mr. Moineau
Total Turnover (1977): 28.7 m.F (Group)
Total Staff: 1500 (Group)

Telsys Informatique
20 Boulevard de la Muette
95140 Garges-les-Gonesse.

Tel: 986-96-49 TELSYS

THE COMPANY

- Begun in 1970, SG2 is a subsidiary of the Societe Generale bank and grew from its assistance to its parent in implementing the systems design and programming of numerous SG projects and applications.

- The six principal shareholders of SG2, its sixteen wholly owned or partially owned subsidiaries and associates are itemised as follows:

Principal Shareholders (6)		Principal Subsidiaries (14)
o Rhone Poulenc	(4%)	CASEC
o CNRO	(5%)	CETINE (80% owned)
		CRTI (50% owned)
o Societe national ELF Aquitaine	(5.2%)	GIB2
o Institut Francais du Petrole (IFP)	(6.8%)	LI
		SG2 I
o Inforbis	(30%)	SG2 NORD

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- Societe Generale (49%)

  SUGEOR
  TELSYS (90%)
  TGS (100%)

  GABON INFORMATIQUE
  HANDAD
  SG2 CI
  SGS
  FRANLAB (20%)

  SITEX

- Note: SG2 shareholding indicated in parentheses

- Itself a Professional Services vendor, SG2 has profited from the enormous captive market that the bank and its affiliates in metropolitan Paris and France, Belgium, Ivory Coast, Spain Morocco, Lebanon etc provide. However, this same entry into the Banking community has given SG2 a privileged contact with the large industrial groups from which its growth now comes. In addition to SG, five other major groups own shares in SG2.

- As well as Professional Services, SG2 provides Batch, Remote Batch and Interactive Services through wholly or partially owned subsidiaries in Bordeaux (SG2 office), Lyon (TGS-100% owned), Lille/Creil/Valenciennes (SERIME-50% share), Fourmies (CETINE-80% owned), Lorient/Rennes/Quimper/St-Malo/-Nantes (CRTI-50% share), Aix-en-Provence/Marseille (SG2 office), Garges-les-Gonesse (TELSYS-90% owned).

- In SG2's experience, the best growth strategy is to associate oneself with regional Computer Services companies that have solid human/technical resources, a viable commercial entity and a good image. This they have achieved, and are gradually adding Remote Computing Services to all of these established regional groups. In January 1978 they took a 20% share in FRANLAB.

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o The group's 1976 sales and profits are given below :

ENTITY	SALES (MF)	PROFIT BEFORE TAX (MF)
SG2	62.0	5.0
L.I.	4.0	0.75
TGS	13.5	1.05
CRTI	12.0	0.55
SERIME	8.0	0.1
GABON INFORMATIQUE	15.0	0.7
TOTAL	114.5	6.75

- Over the 1970 to 1977 period the percentage of sales achieved outside the Societe Generale group has risen dramatically. In 1970 this was only 10%; in 1977 it was over 75%.

- Sales of the SG2 company have risen significantly since 1974 (by a factor of 2.4 in the two-year period to 1976). With the programme of acqusitions, the SG2 group sales have literally soared: from 110MF in 1976 to 241MF in 1977. Profit was 11.9MF. Of this, 170MF was external to the parent Societe Generale.

ORGANISATION AND STAFFING

- Taking SG2 as a whole, including companies with SG2 participation, the total number of employees was 1800 in 1978. If wholly owned subsidiaries only are considered, the total SG2 staff number just over 1500 of which approximately 400 or 25 are involved in professional services (Consultancy Analysis and Programming.

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- The Telsys subsidiary has 200 staff organised as shown in Annexe-A. This number comprises some 130 technical staff, a computer operations team of 20 plus 30 data preparation staff and the balance of 20 is made up of sales an administrative staff.

HARDWARE

- Processing centres by subsidiary, together with their mainframes, are shown in Annexe-B (FRANLAB excluded). The list itemises 32 mainframes ranging in scale from the small IBM Systems 3/10 and 34 to the ITEL AS6 and the CII-HB 66/05.

- The Telsys configuration is as follows:

Item	No.	Description
Processors	1	ITEL AS 5 (3Mb)
	1	ITEL AS 6 (4Mb)
Data Comm.	1	3705
Exchangeable Disks	20	3330/1
	20	3330/11
Fixed Disks	8	3350
Mag. Tapes	24	3420 (160-6250 BPI)
Printers	4	3211 & 1403 (on-line)
	1	DATA 100 (off-line)
Data Prep.	1	CMC 180 (32 terminals)

NETWORK & TERMINALS

- The principal network services are provided by the CII - HB 66/05's of CRTI, the ITEL machines of TELSYS and the Burroughs B3700 machines of TGS. Most of the other machines are not large enough to provide significant networking facilities except by behaving as RJE terminals to larger machines installed elsewhere. An exception could be the IBM 3031 at Aix-en-Provence.

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- The IBM 370/168 is used for special services in the context of the back-up centre at Paris (see below). TELSYS support in excess of 100 terminals from their centre.

KEY PRODUCTS AND SERVICES

- SG2's services entail:

  - Management Consultancy, (particularly organisational).
  - Custom EDP projects.
  - Sofware products.
  - EDP Audits.

- The Software Products include standard applications for (1) cross-industry needs: personnel administration and paye (SYGEPA) analytic and general accounting (SYGECOMPTA) (2) industry-specific packages: billing, inventory control, A/P, A/R, sales statistics,

  - a modular set of programmes that are tailored to a clients particular requirements - for companies in the distribution sector, plus the SYGELAB package of medical laboratory administration.

- Telecommunications are also a Societe Generale experience that is now offered for similar projects.

- Turnkey systems for industry include projects for the textile, transportation, food/drink, construction and wholesale sectors.

- The SG2 group as a whole has strong banking and commercial data processing service origins. The Franlab involvement (20%) brings a completely different type of service into the association that of scientific processing, remote computing and an entry into the petroleum industry. Given these origins, (as one would expect) payroll and accounting services are comprehensive and varied.

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- Services offered by SG2 which are less common in France include:

  - o Computer Equipment Installation and Maintenance
  - o Text Processing
  - o Microfilming (including Computer Output to Microfiche or Microfilm)
  - o Cheque processing
  - o Training and Seminars
  - o Customer Back-Up Centre

- The only one of these that requires some explanation is the Customer Back-Up centre. This is a relatively new concept in data processing history. The principle is that the cost of the centre is divided into three parts: (i) one-third of the costs are recovered by means of a monthly charge to participating firms in exchange for a guarantee of immediate back up if needed in an emergency; (ii) one third is paid for by program testing by clients charged on a discounted basis and carried out on an understanding that if an emergency need arises, the work is shelved as low priority. The other third is paid for and used by SG2.

- The TGS Burroughs machines are used primarily for real-time insurance applications and the SG2 based B3700's are used for Carte Bleue processing services. The Univac machines in the SG2 group are used mainly for cheque sorting.

- TELSYS main services are :

  - o consultancy, analysis and programming
  - o payroll & personnel services (CRESUS)
  - o accounting (PLOUTOS)
  - o interactive stock control/invoicing (HECTOR)
  - o training

  In addition to these services, TELSYS has opted for ADABAS and MARK IV for database work instead of IMS.

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- The training division of TELSYS is one of few available in France of significance. Twenty different courses are featured in the brochure. These are essentially for analysts and programmers and cover languages, operating systems and job control, teleprocessing systems analysis and commercial applications.

- Telsys Bureau Availability

  The Telsys bureau is normally operated on a 24 hour basis six days a week including bank holidays. Sundays can be worked by special arrangement.

MARKETING

- Clearly SG2 has considerable strength in the banking and insurance sector and through its regional centres, it provides a wide spread of general payroll and accounting services. Looking at the hardware table it is evident that there is too broad a machine range and many of the machines are obsolete as well. Evidently there will be some conversion problems to contend with and this will have significance for the marketing policy.

- The Telsys installation however is extremely modern and the ITEL machines are known to provide better cost performance than the nearest IBM equivalents in the 370 series. No doubt the 303X series will redress this balance.

- The batch processing local service bureau operation at the Telsys centre operates a simple work schedule and there is only one tariff structure for work priority. This policy is apparently standard within the SG2 group.

- It is SG2's policy to provide networks on a regional basis as the need develops.

- Sales per employee for SG2 in 1977 were 172 MF per person which is low.

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COMPUTER HARDWARE

- The computing centres are organised by regional zones :

* SOUTH WEST - Main centre in Bordeaux (100 staff) with 2 Burroughs 3700, 12 data capture units. The main services are management consultancy, Batch services, data entry and small network (12 terminals).

* RHONE-ALPS - TGS centre in Lyon with 70 people and 3 Burroughs 3700 with a data capture centre. Main activities are the same as abvove, except the user network is larger (90 terminals).

* NORTH - Two centres, (1) CETINE with an IBM 370/138 at Fourmies and an IBM 370/135 at Lille and a microfilm centre. Total staff is 90. (2) SERIME, partly (50%) owned. The product is a UNIVAC 90/30 with 55 staff.

* BRITANNY - CRTI has 2 Honeywell Bull 6605 at Lorient, and one IRIS 50 at St Malo with a total of 115 staff.

* SOUTH EAST - SG2 uses time from the IBM 370/165 of the Societe Generale at Marseille Group created at the beginning of 1977.

* PARIS - Telsys has an ITEL AS/5 and an IBM 370/155 partially used by the previous parent (Bergerat Monnoyeur). Total staff of 90 people and a network of over 110 terminals.

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* WEST AFRICA - Three centres have been set up: - Gabon (only computer services company in the country) in which SG2 has a 10% share and manages the operation - Libreville and Port Gentil have 2 IRIS (CII) 45 and a turnover of 28MF. - Ivory Coast: office but no equipment.

* MIDDLE EAST - SG2 intervenes in Lebanon, Iraq, Syria, Saudi Arabia but has one full time office: IRAN where SG2 owns 20% with the remainder in the hands of Iranian banks, Societe Generale and COMINIF. There is no equipment.

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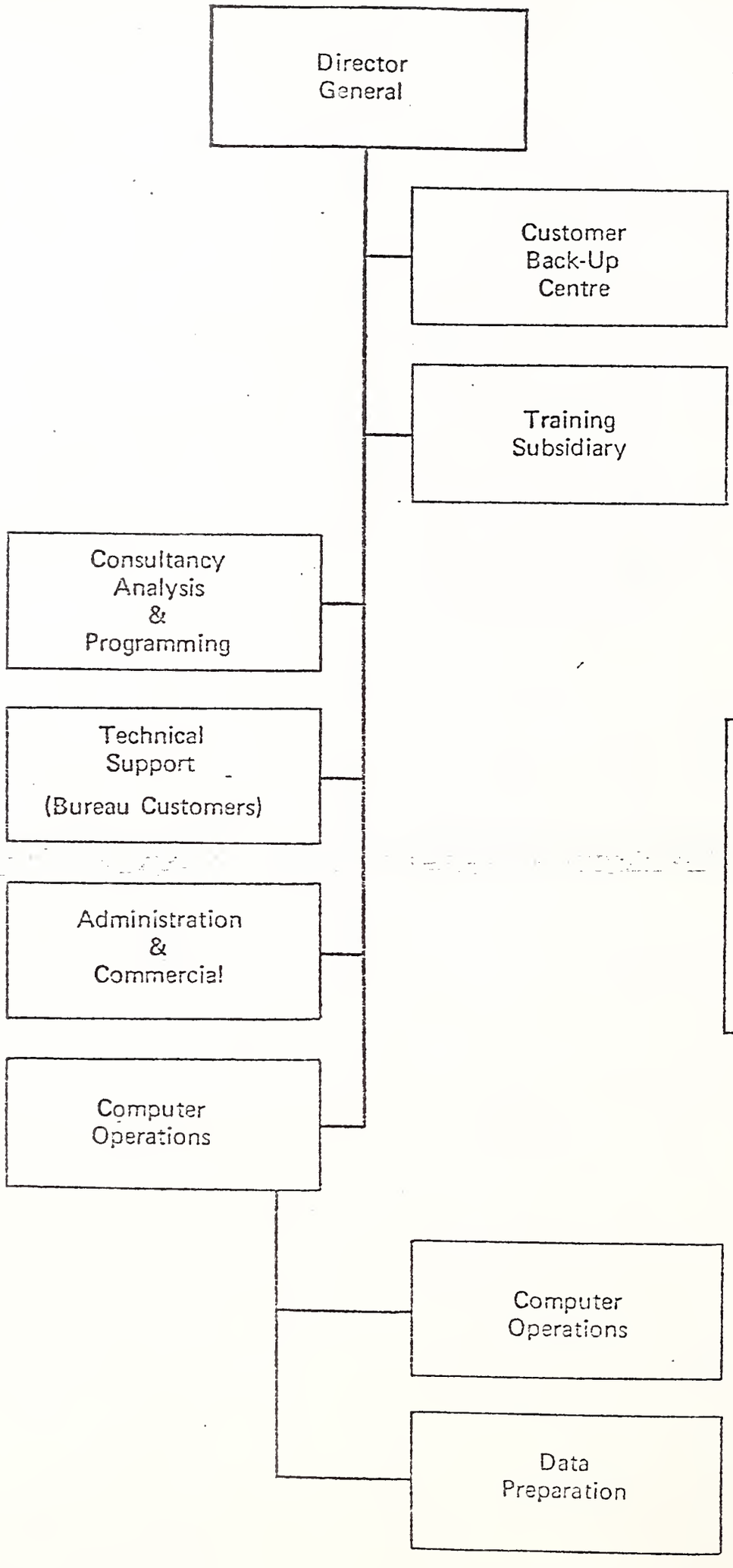
ANNEXE – TELSYS/A



Staffing:

Sales/Administration	20
Technical	130
Computer OPS	20
Data Preparation	30
TOTAL	200

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ANNEXE - TELSYS/B

HARDWARE SUMMARY

COMPANY	LOCATION	AREA	MAINFRAME
SG2	Paris	P	370/168
	Paris	P	ITEL AS5
	Lille-Seclin	N	370/158
	Lille-Seclin	N	Univac 90/20
	Lille-La Madelaine	N	B 2700
	Lille-La Madelaine	N	GE 105
	Creil	N	System 34
	Valenciennes	N	Univac 90/30
	Bordeaux	SW	GE 105
	Aix-en-Provence	SE	B 3700 (x2) 3031
	Aix-en-Provence	SE	IBM 3031
TELSYS	Garges-Les -Gonesse (Paris Environs)	P	ITEL AS6 ITEL AS5
COFI	Paris	P	370/145
CETINE	Fourmies	N	370/138
CRTI	Lorient	B	2 x CII-HB66/05 bi-processor
CASEC	Bordeaux	SW	GE 105 B 3700 (x2)
	Limoges	SW	Gamma 10
	Pau	SW	Gamma 10 GE 130 (x2)
GIB 2	Brive	SW	Philips 1075
TGS	Lyon	RA	B3700 (x3) ITEL AS5
SOGEOR	Tours	CW	360/30
	Angers	CW	System 3/10

Area codes

P	=	Paris			
N	=	North	B	=	Bretagne
SW	=	South West	RA	=	Rhone - Alpes
SE	=	South East	CW	=	Centre - West

Note

Extracted form SG2's November 1978 brochure.

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(iii) WEST GERMANY

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DISTRIBUTION OF SAMPLE COMPUTER SERVICES COMPANIES IN WEST GERMANY BY 1978 TURNOVER AND PRINCIPAL ACTIVITY

MAIN ACTIVITY	TURNOVER (US $)								ALL WITH T/O		SAMPLES AS % OF TOTAL POPN.
	10M "A"		10M - 1M "B"		1M - .1M "C"		0.1M "D"				
RCS BUREAU	13	3.2%	19	4.7%	5	1.2%	-	-	37	9.2%	73% of 51
BATCH BUREAU	5	1.2%	148	36.8%	115	28.6%	3	0.7%	271	67.4%	72% of 375
SOFTWARE AND PROFESSIONAL SERVICES	4	1.0%	32	8.0%	20	5.0%	2	0.5%	58	14.4%	78% of 74
OTHER (EG COM, DATA PREP.)	1	0.2%	13	3.2%	22	5.5%	-	-	36	9.0%	72% of 50
ALL WITH T/O.	23	5.7%	212	52.7%	162	40.3%	5	1.2%	402	100%	73% of 550

EXHIBIT V-C.3

COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
ABEX TEXTVERARBEITUNG	*	*				*	●	
ABRECHNUNGSZENTRALE	*	*		*	*		●	
ABZ RECHENZENTRUM	*					*	●	
AC SERVICE GMBH Duesseldorf	*	*	*		*	*	●	
AC SERVICE GmbH Hamburg	*	*		*	*	*	●	
AC SERVICE Gmbh Munich	*		*		*	*	●	
AC SERVICE GMBH Offenbach	*	*	*		*	*	●	
AC SERVICE GMBH Stuttgart	*	*	*		*	*	●	
ACTIS ANGEWANDTE				*	*		●	●
ADM SYSTEM-LOGIK GES							●	
ADP NETWORK SERVICES		*					●	
ADV/ORGA DATENSERVICE	*	*			*	*	●	●
ADV SELLIN KG	*					*	●	
AFD ARBEITSGRUPPE FUER	*	*		*	*	*	●	
AGES SOFTWARE GMBH					*		●	
AIS ANWALTS INKASSO							●	
RECHENZENTRUM ALLDA	*	*		*	*	*	●	
ALLDATA SERVICE Berlin	*	*	*	*	*		●	
ALLDATA SERVICE Duesseldorf	*	*	*	*	*		●	
ALLDATA SERVICE Munich	*	*	*	*	*		●	●
APEX DATENERFÄSSUNG						*	●	
APOTHEKEN RECHENZENTRUM	*						●	
RECHENZENTRUM ARA	*	*		*	*	*	●	
ARZ ALLGEMEINES	*	*		*	*	*	●	
ASCO SYSTEMPROGRAMMIERUNG	*	*	*	*	*		●	
ATLANTA DATENVERABEITUNG	*			*	*	*	●	
AUDATEX DEUTSCHLAND		*		*		*	●	
AVINER, WEISENER U GALLER	*		*	*	*	*	●	
AZ RECHEN ZENTRUM REINHARD	*	*			*	*	●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
BARTH RECHENZENTRUM KG	*				*	*	●	
BASIC-EDV GMBH				*			●	
RECHENZENTRUM BAU GMBH	*						●	●
BAU DATENVERARBEITUNG	*		*		*	*	●	
BAUDATA GES FUER BAU U	*						●	
RECHENZENTRALE BAYERISCHE	*	*		*	*	*	●	●
BEDEBE RECHENZENTRUM GMBH	*						●	
BEG BUERO-ELEKTRONIK	*	*	*	*	*	*	●	
BERATUNGS U ANLAGE GMBH					*		●	
ROLLAND BERGER & PTN GMBH					*		●	
ARTHUR BETH GMBH	*		*	*	*	*	●	
BETRIEBSWIRTSCHAFT GMBH					*	*	●	
BFD RECHENZENTRUM	*				*	*	●	
BO-DA GMBH & CO	*				*	*	●	
BOG HANNOVER GMBH	*				*	*	●	
BOGUSCH & GREIFE GMBH	*	*				*	●	●
BOEHM & SALASKE					*		●	
BOERSEN-DATEN-ZENTRALE GMBH	*	*		*		*	●	
BOTH & MUELLER & CO. KG	*	*	*	*	*	*	●	
EDV-SERVICE BOUNIN	*						●	
BREMER DATENERFÄSSUNG GMBH						*	●	
BREMER RECHENZENTRUM	*				*		●	●
BUCHDATA GES FUER	*	*	*	*	*	*	●	
RECHENZENTRUM BUCHEN GMBH	*	*		*	*	*	●	
DATENSERVICE BUCHNER U	*	*	*	*		*	●	
BUCKSCH & PLOCHER						*	●	
BUEDAT GMBH	*					*	●	
BUDATA NEUZEITLICHE	*	*		*		*	●	
BUERO FUER DATEN	*				*		●	

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BUERO FUER ORGANISATION	*				*		●	
BUERO ORGANISATION GMBH	*	*		*	*	*	●	
HANS F. BUSCHMANN EDV KG	*					*	●	
CINCOM SYSTEMS INC				*			●	
CMG GMBH	*		*	*	*	*	●	
COCQ DATENDIENST GMBH	*	*		*	*	*	●	
COMPUTER DIENST GMBH	*	*		*	*	*	●	
COMPUTER DIENSTLEISTUNGSCENTER	*	*			*	*	●	
CSG COSTING SOFTWARE				*			●	
COMPUTER SERVICE KARLSRUHE	*			*	*	*	●	
COMPUTER SERVICES EUROPA GMBH	*	*				*	●	
COMSERVE GMBH	*				*	*	●	
CONTROL DATA Duesseldorf	*	*		*	*	*	●	
CONTROL DATA Frankfurt		*					●	
CONTROL DATA RECH	*	*		*	*	*	●	
CSID COMPUTER SCIENCES	*	*	*	*	*		●	
DABU DATENVER	*			*	*	*	●	
DATA EXTERN GES FUER DATEN	*				*		●	
DATACENTER RECHENZENTRUM	*			*	*	*	●	
DATACORRECT GMBH	*				*	*	●	
DATAFIX BUERO FUER MODERNE	*				*	*	●	
DATA RECORD GES FUER	*						●	
DATATRON DATEN-SERVICE	*	*		*	*	*	●	
DATEC DATENVERARBEITUNGS	*			*		*	●	
DEUTSCHE DATEL GES DARMSTADT	*	*	*	*	*		●	
DATEL GMBH Essen	*	*	*	*	*		●	
DATEL GMBH DEUTSCHE HAMBURG	*	*	*	*	*	*	●	
DATEL GMBH Munich	*	*	*	*	*	*	●	
DATEL GMBH Stuttgart	*	*	*	*	*	*	●	

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DATEMA GES FUER D-V MBH		*					●	●
DATENAUSWERTUNGS	*	*		*	*	*	●	
DATEN-CONTOR GMBH	*	*				*	●	
DATENDIENST GMBH	*				*	*	●	
GES FUER DATENERFASSUNG	*	*		*		*	●	
GES FUER DATEN MBH Stuttgart	*	*			*	*	●	
GES FUER DATEN MBH Sussen	*	*			*	*	●	
DATEN VERARBEITUNG STUTTGART	*				*	*	●	
DATEN ZENTRALE NORD GMBH	*					*	●	
DATEV EG		*			*		●	●
DATEX GMBH	*		*	*	*	*	●	●
DATEX DATEN ERFASSUNG GMBH						*	●	
DATIS GMBH	*			*	*	*	●	
DATO RECHENZENTRUM	*		*	*	*	*	●	
DATORGA GMBH	*						●	
DATSCHIFF DATENVERARBEITUNG	*						●	
DAVER DATENVERARBEITUNGS	*	*		*	*	*	●	
DAVO GES F. DATENVERARBEITUNG	*				*		●	
DBO SYSTEME FUER D.V.	*		*		*		●	
DEC DATENERF ASSUNGS CENTRALE	*				*	*	●	
DELTA RECHENZENTRUM GMBH	*		*	*	*	*	●	
DEOGEDAT DATENVERARBEITUNGS	*						●	
DEUTSCHE BAU UND BODENBANK	*	*				*	●	
DEUTSCHE ULTIMACO	*		*	*		*	●	
DEV DATENERFASSUNGS	*			*		*	●	
DEV DATENERFASSUNG BERLIN	*					*	●	
DIALOGICA GMBH	*	*		*	*	*	●	
DIH GMBH	*		*	*	*	*	●	
DIHACO DATENSYSTEME	*	*	*	*	*	*	●	●

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RECH DOKUMENTA Bremen	*	*	*	*	*	*	●	
RECH DOKUMENTA Hamburg	*	*	*	*	*	*	●	
DSB	*					*	●	
DSU RECHENZENTRUM	*			*		*	●	
DT DATENTECHNIK GMBH	*			*	*	*	●	
DEV DATENERFASSUNG						*	●	
DVD RECHENZENTRUM	*				*	*	●	
DVH DATENVERARBEITUNGSDIENST	*	*			*	*	●	
DVO DATENVERARBEITUNGS	*	*			*	*	●	●
DVO DATENVERARBEITUNG UND	*	*			*	*	●	
DVS DATEN VERARBEIT.	*						●	
ECKHARDT DATENSERVICE						*	●	
ECKHARDT OHG CHRISTA						*	●	
EDT RECHENZENTRUM	*						●	
EDV ARBEITSGRUPPE ELEK.	*			*		*	●	
EDV BUERO BETREUUNGS	*	*	*	*	*	*	●	
EDV SERVICE	*			*	*	*	●	
EDV SERVICE GMBH	*	*		*	*	*	●	
EDV SYSTEM ORGANISATION GMBH	*			*			●	
DR. EFFERT WIRTSCHAFTLICHES	*	*			*	*	●	
EHS RECHENZENTRUM FUER	*			*		*	●	
ELDA GES FUER ELEK	*						●	
ELDA GES FUER ANGEWANDTE	*				*		●	
ELDA DATENVERARB.	*						●	
ELDAG ELEKTRONISCHE	*						●	
ELDATEX KAHLE	*			*	*	*	●	
ELECTRONIC COMPUTER CENTER	*	*			*	*	●	
ELECTRONIC DATENVER.	*			*		*	●	
GES FUER ELEK. ARBRECHNUNG	*	*			*	*	●	

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GES FUER ELEK. INFORMATIONS.	*	*	*	*	*		●	
ELEKTRONISCHES DATEN.						*	●	
ELEK. RECH. Bielefeld	*			*	*	*	●	
ELEK. RECH Bayreuth	*						●	
ELEK. RECH Dortmund	*				*	*	●	
ELEK. RECH. KOCH DELTA	*	*		*		*	●	
ERS ELECTRONISCHES	*	*		*	*	*	●	
ES EDATENTECHNIK GMBH	*						●	
EUROCOM	*						●	
EURODATA GMBH & CO. KG	*	*			*	*	●	
EUROPA VERISCHERUNGEN	*			*	*	*	●	
EXDATA DE AGENTOR	*	*		*	*	*	●	
RIVISIONS U BERATUNGSGES MBH	*	*		*	*		●	
FIDES RECHENZENTRUM GMBH	*	*	*	*			●	
FIDUCIA REVISIONS	*	*				*	●	
FINGERHUT G.	*						●	
FISCHER DATENTECHNIK	*	*	*	*	*	*	●	
FUHRMANN DATENERFASSUNG	*					*	●	
FULL DATA MANZINGER KG.		*		*		*	●	
GA GES FUER AUTOMATION	*	*		*	*	*	●	
GAD MUENSTER	*						●	
GAO GES FUER	*			*	*	*	●	
RECHENZENTRUM DIPL KFM F Gasper	*				*	*	●	
GDV GMBH	*	*		*			●	
GEDAS GES FUER Hamburg	*				*	*	●	
GEDAV GES FUER Luebeck	*					*	●	
GEI GES FUER				*	*		●	
GEMEDA GES FUER	*				*		●	
GEMINI COMPUTER SYSTEM	*	*	*	*	*	*	●	

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GEODATA SERVICE GMBH	*			*			●	
GEOMESS GMBH	*			*	*	*	●	
GEPOS GES FUER		*		*	*		●	
GES FUER SYSTEMENTWICKLUNG				*	*		●	●
GES FUER WISSENSCHAFTLICHE	*	*	*	*	*	*	●	
GFA GES FUER AUTOMATION						*	●	
GFR DATENSERVICE GMBH	*	*		*	*	*	●	
GIER ELECTRONICS GMBH	*				*	*	●	
GIESEN DATENVERARBEITUNG				*	*	*	●	
DATENVERARBEITUNG GLETTLER	*			*	*	*	●	
GOEPPINGER ARBEITSGEMEINSCHAFT	*				*	*	●	
RECHENZENTRUM GOSLAR	*			*			●	
DATEN-SERVICE GREINER						*	●	
RECH. GRUENSTADT FUER	*	*			*	*	●	
GRZ GOETTINGER RECHENZENTRUM	*					*	●	●
GEMEINSCHAFFS RECHENZENTRUM	*	*	*	*	*	*	●	
GSP GES FUER SYSTEMPLANUNG	*			*	*	*	●	
EDV HABEL GMBH & CO	*			*	*	*	●	
RECH. EGON HAHN	*	*	*	*	*	*	●	●
HAMBURGER DATENVER.		*				*	●	
HAMBURGISCHE DATENFREUHAND	*	*		*	*	*	●	
HANDELS-KOOPERATIONS-SEN.	*	*		*	*	*	●	
RECH. HANSA GMBH	*	*	*	*	*	*	●	
HANSA BERATUNG	*	*		*	*	*	●	
HANSISCHE DATEN.	*	*		*	*	*	●	
REC. HARTMANN KG.	*			*	*	*	●	
SOFTWARE HAUS PETER HARTMANN	*	*		*	*	*	●	●
HATO VERWALTUNGS	*				*		●	
HAUPTBUCH	*				*	*	●	

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FA HECKER						*	•	
HEIDECK DATENDIENST	*			*		*	•	
GDO DR. HEISS GES FUER	*	*			*		•	•
HELA DATA DATEN.	*	*		*		*	•	
HERDEG	*						•	
HIRSCH UNTERNEH.				*	*		•	
ROSEMARIE HOMOVC	*	*	*		*	*	•	
HONEYWELL BULL - NIS		*					•	
G. HORN NC-SOFTWARE	*			*	*	*	•	
COMPUTER - SERVICE HORSTMANN	*						•	
HOSEIT RECHENZTRALE	*			*	*	*	•	
GESFUER DATEN	*	*	*	*	*	*	•	
IABG INDUSTRIEANLAGEN		*			*		•	
IAI INGENIEURGEMEINSCHAFT				*	*		•	
IBM DEUTSCHLAND	*	*			*	*	•	
IDAS GRUPPE INFORMATIONS	*				*		•	•
IDS FORSCHUNGSINSTITUT	*						•	
IKO SOFTWARE SERVICE				*			•	•
INDUSTRIE DATEN SERVICE	*	*	*	*	*	*	•	
INFODAS GES FUER	*				*		•	
INFODATA GMBH	*	*		*	*	*	•	
INFORG INFORMATIK U ORG.					*		•	
INFORM. GES FUER PRAKTISCHE	*						•	•
INFORMATION DURCH	*		*	*	*		•	
INFORMATIONSVERARBEITUNG						*	•	
INSTITUT FUER SOFTWARE TECHNIK				*			•	
INSTITUT FUER UNTERNEHMUNGS	*	*	*	*	*	*	•	
INTEGRAL CONSULTING					*		•	
INTERPROGRAMM				*	*		•	

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IOP RECH. Augsburg	*	*		*	*	*	●	
IOP RECH. Munich	*	*		*	*	*	●	●
IPF GES FUER ELEK.	*			*	*	*	●	
ITT DATENSERVICE			*				●	
DAS REC. JAHNKE & POTYKA	*			*	*	*	●	
COMPUTER SERVICE ERNST JOST	*						●	
KAGA DATENVER	*	*		*	*	*	●	
BUEROORGANISATION ROLF KAYSER					*		●	
KEMPINSKI DATENSERVICE						*	●	
KIENBAUM			*		*		●	●
BUDAT W. KIRCHHOF & CO.	*				*	*	●	
DATENERFASSUNG I KOEHLER						*	●	
KOMDA GMBH	*	*		*	*	*	●	
GERDA KOSEL ELEKTRONISCHE						*	●	
KRIEGS GES FUER ELEKTRONISCHE					*	*	●	
LC RECHENZENTRUM	*				*		●	
LEIBNIZ - RECHENZENTRUM		*				*	●	
LEX-EDV GES GUER DATENVERAR.	*						●	
LISTA DATENERFASSUNG						*	●	
ARTHUR D. LITTLE INC					*		●	
LKS DATENSERVICE AG	*	*		*		*	●	●
LODAC LOHN U DATENCENTER	*						●	
LORENZ COMPUTER GMBH	*			*	*		●	
LOHN-DATA SERVICE GMBH	*						●	
LVZ GMBH	*	*		*	*	*	●	
MANAGEMENT DATENBANK GMBH	*	*		*	*	*	●	
MANDATA	*	*	*	*	*	*	●	
MANNESMANN-DATENVERARBEITUNG	*	*	*	*	*		●	●
MANTEY EDV	*			*	*		●	

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MARKETING SYSTEMS GES FUER		*			*		•	
MATHEMATISCHER BER. Bremen	*	*	*	*	*	*	•	
MATHEMATISCHER BER. Dortmund	*			*	*	*	•	•
MATHEMATISCHER BER. Frankfurt	*	*		*	*		•	
MATHIESEN "KIENZLE DATENSYSTEME"	*	*	*	*	*		•	
MDSI MANUFG.		*					•	
MDT GESELLSCHAFT FUER MITTLERE	*			*		*	•	
MEDA GES FUER DATEN.	*			*		*	•	
MESSERSCH MIDT-BOLKOW-BLOHM	*	*	*	*	*		•	•
MICROGRAPHIX KG	*		*				•	
DATENVERARBEITUNGSGESELL.	*			*			•	
MITTELRHEINISCHES	*	*	*	*	*	*	•	•
MSZ DATENVERARBEITUNGS	*	*		*		*	•	
MUEKU-SERVICE BUERO	*						•	
MUELLER EDV GMBH & CO. KG	*	*				*	•	
DATENSERVICE BEATE MUTTER	*					*	•	
NCR GMBH	*	*					•	
NCR GMBH RECH.	*	*	*	*	*	*	•	
NEUE LANDBUCH GMBH FUER	*						•	
NEUNER & CO. DATENVER.	*	*		*	*		•	•
RECHENZENTRUM NEUSTADT	*	*	*	*	*	*	•	
JOSEF NEIDERMAIR	*	*	*	*	*		•	•
KARL NOLL KG						*	•	
DATENVERARBEITUNG NORD	*						•	
RECH. NORD FUER DIE					*	*	•	
NORDATA	*				*	*	•	
RECHENZENTRUM NORDHESSEN	*	*			*		•	
NORD WEST INGENIEURGES	*	*		*	*	*	•	
OEBVI				*		*	•	

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OCR SERVICE GMBH	*	*				*	●	
OMNIA SERVICE	*			*		*	●	
RECH. ORDA EDV ORG	*				*	*	●	
ORDA GES FUER ORGANISATION	*			*	*	*	●	
ORDAT RECHEMSENTRUM	*	*		*	*		●	●
ORDO GES FUER ORGANISATION	*	*	*	*	*	*	●	
ORGADAT GES FUER Frankfurt	*	*	*	*	*	*	●	
ORGADAT GES FUER Hamburg	*	*	*	*	*	*	●	
ORRGADATA GES FUER Neunkirchen	*						●	
GES FUER ORGANISATION	*	*	*	*	*	*	●	
ORGANISATIONSPARTNER	*	*		*	*		●	●
ORGA-PLUS RECHENZENTRUM	*	*	*	*	*	*	●	
ORGA-RATIO GMBH Nordhorn				*	*		●	●
ORGA-RATIO GMBH Muenchen				*	*		●	
ORGAREVI ORGANON GMBH	*			*	*	*	●	
ORGDATA GES FUER	*			*	*	*	●	
OSG ORGANISATIONS					*		●	
OSTERMANN RECHENZENTRUM	*			*		*	●	
PANSOPHIC				*			●	
PEINER DATEN GES FUER	*			*	*	*	●	
EDV STUDIO PLOENZKE	*	*		*	*	*	●	●
EDV POEHLER & SCHULTZ	*			*	*		●	
DATENERFUSSUNG STUTTGART						*	●	
PRISMA DATENTECHNIK GES	*	*			*	*	●	
PRIVATES INSTITUT FUER SOFTWARE	*	*		*			●	
EDV ORGANISATIONSGES PROGDATA	*				*		●	
PUBLICA DATA SERVICE GMBH	*		*	*	*	*	●	
PUMP KG HORST	*						●	
RADO PLAN GES FUER	*				*		●	

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GES FUER RAIFFEISEN	*						●	
RAIFFEISEN RECH	*						●	
RAIFFEISEN RECH. Koblenz	*	*		*		*	●	●
EDP DATENERFASSUNG	*	*		*	*	*	●	
RANDÛM ELEKTRONISCHE	*		*	*	*	*	●	
RATIO DATA GES FUER	*				*		●	
RATIOPLAN UNTERNEHMENSBER.	*				*		●	
RATIO RECHENZENTRUM GMBH	*						●	
RATIO DATA RECHENZENTRUM	*						●	
RATIONAL Goetzenhain	*	*	*	*	*	*	●	●
RATIONAL GES FUER Hamburg	*						●	
RATIONAL Munich	*	*		*	*	*	●	
RATIOPLAN Frankfurt	*				*		●	
RATIOPLAN Schwenningen	*				*		●	
L. RAUE DATEN.	*					*	●	
RECHEN U ENTWICKLUNGS.	*	*		*	*		●	
RECHENZENTRUM FRANKFURT	*	*	*	*	*	*	●	●
RECHENZENTRUM DER KALK	*						●	
RECHENZENTRUM U ORG	*	*			*	*	●	
GES FUER RECH. SERVICE	*	*	*	*	*	*	●	
RECHNEN & ZEICHNEN	*	*				*	●	
REGIONALES RECHENZENTRUM	*						●	
REIF UNTERNEHMUNG				*	*		●	
HELMUT REINHOLD						*	●	
DATEN SERVICE RENSING KG	*					*	●	
RENTENBERATER						*	●	
RHEIN MAIN RECH.	*					*	●	
RHV SOFTWARETECHNIK				*	*		●	
RIB	*			*	*		●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
RIEDLINGER	*			*	*	*	●	
RKU RECHENZENTRUM	*	*				*	●	
ROSSBERG DATEN	*				*	*	●	
RICHARD ROSENWALD	*				*	*	●	
GES FUER DATENVERARBEITUNG	*	*			*	*	●	
RUG AG	*	*	*	*	*	*	●	
RWV RECHENZENTRALE FUER	*	*		*			●	
RZR RECHENZENTRUM	*	*	*		*	*	●	
SAP GMBH SYSTEME				*			●	●
SATZ RECHEN ZENTRUM	*	*		*	*	*	●	
BEITRIEB FUER DATEN W. SCHEELE	*			*		*	●	
EDV DIENST SCHILLING	*			*	*	*	●	
DATENTREU SCHMIDT & CO	*					*	●	
EDV PROGRAMM VERLAG SCHUPP	*	*		*	*	*	●	
RECHENZENTRUM SCHULTE GMBH	*	*	*	*	*	*	●	
SCS SCIENTIFIC CONTROL SYSTEMS				*	*	*	●	●
SERVICE BUERO						*	●	
SERVO DATA GMBH	*	*		*	*		●	●
SESA DEUTSCHLAND GMBH							●	●
SEV SOFTWARE ENTWICKLUNG	*	*		*			●	
SIEMENS	*				*		●	
RECHENZENTRUM SIMMERN	*			*	*	*	●	
RECHENZENTREN SINDELFINGEN						*	●	
SOFTLAB GMBH				*	*		●	●
SOFTWARE AG	*	*		*			●	
SOFTWARE COMPUTER	*	*		*	*	*	●	
SOFTWARE PARTNER				*	*		●	
S & S SOFTWARE	*	*		*	*	*	●	
"SOLL UND HABEN" KG	*			*	*	*	●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
SPIEGEL GAISSMAIER	*						•	
SPL SYSTEMS PROGRAMM.				*	*		•	
R. STAHL	*	*		*	*	*	•	
RECHENZENTRUM URSULA STAUDE	*			*		*	•	•
RECHENZENTRUM BERLIN K. STECKER	*	*	*	*	*		•	
STEINERDE DATEN U	*						•	
STOFFEL DATENVERARBEITUNG	*			*			•	
STOLLMANN & CO.	*						•	
DATENSERVICE STROEBELE	*				*	*	•	
STS SYSTEMTECHNIK				*	*		•	
RECHENZENTRUM SUEDWEST	*						•	
SWD SOFTWARE DESIGN MBH	*	*		*	*		•	
SYLOG GES FUER MODULAR				*			•	•
SYSTEMA FACHBUERO FUER					*		•	
SYSTEMS PROGRAMMING GMBH	*	*		*	*		•	
SYSTOR GMBH FUER ELEK.	*	*		*	*	*	•	
DATENERFASSUNG G. TAUBERT		*			*	*	•	
TAYLORIX	*	*			*	*	•	
TAYLORIX DATENVER.	*	*		*	*	*	•	
TAYLORIX ORGANISATION.	*	*			*	*	•	•
TELEDATA	*	*		*	*	*	•	
TELEPRINT GMBH		*				*	•	
TEWIDATA GES FUER TECHNISCH	*	*	*	*	*	*	•	
DATENERFUSSUNGS SERVICE TOUSSAINT	*	*			*	*	•	
TREUDATA GES FUER DATENVERAR.	*	*	*	*	*	*	•	
TREUGA RECHENZENTRUM GMBH	*	*			*	*	•	
HANS TROPPER DATA-SERVICE	*	*		*	*	*	•	
UNA UNTERNEHMENSBERATUNG				*	*		•	•
UNIREZ GMBH UNIVERSAL	*						•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
UNISERV KARL-HEINZ KRUG	*			*	*	*	●	○
VERSICHERUNGS-DATENVERAR.	*	*			*	*	●	
VOELKL RECHENZENTRUM	*			*	*	*	●	
REGINA VORMWALD						*	●	
WAIDMANN DATENTECHNIK	*	*		*	*	*	●	
EDV WEIMAR	*						●	
GERD WEIMAR					*		●	
ING BUERO WESELMAN	*						●	
WESSER GMBH	*						●	
DATENERFASSUNG ERIKA WILPERATH						*	●	
WINDHAGER VERLAG	*				*		●	
WINTON GMBH		*	*		*		●	
WISEV GES FUER	*	*			*		●	
WOHNUNGSBBAU RECHENZENTRUM	*						●	
WOLFF DATENVERARBEITUNG	*						●	
ZBL RECHENZENTRUM	*			*	*	*	●	
ZDL ZENTRALE DATEN.	*			*		*	●	
ZDO ZENTRUM FUER				*	*		●	●
ZEDA GES FUER DATEN.					*	*	●	○
RECHENZENTRUM ZUCKER GMBH	*	*		*	*	*	●	

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COMPANY NAME \ COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS

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COMPANY HIGHLIGHTS

Kienbaum Beratungen GmbH
Ahlefelder Str. 47, Gummersbach 31,
West Germany
Tel: (02261) 77098
Telex: 0884563

Gerhard Kienbaum
President
Private Company
Total employees: 250+
Total turnover: DM 34.8 m
(Input Estimate)

THE COMPANY

- Founded in 1945, KB has grown to over 250 staff with six companies in West Germany, four foreign affiliates and co-operative agreements with local consultants in 15 other countries. CONSULT-EUR, a Shell European company, was also specifically set up for a joint venture with British, French, Dutch and Italian consultancies. The full list of co-operative groups is given below.

KEY SERVICES AND INDUSTRY SECTORS

- The main industry sectors that KB specialises in are as follows:

  - Regional and Socio-Economic Development
  - Manufacturing Industries
  - Agriculture and Agroindustries
  - Animal husbandry, Meat Production and Processing
  - Traffic and Transport
  - Tourism

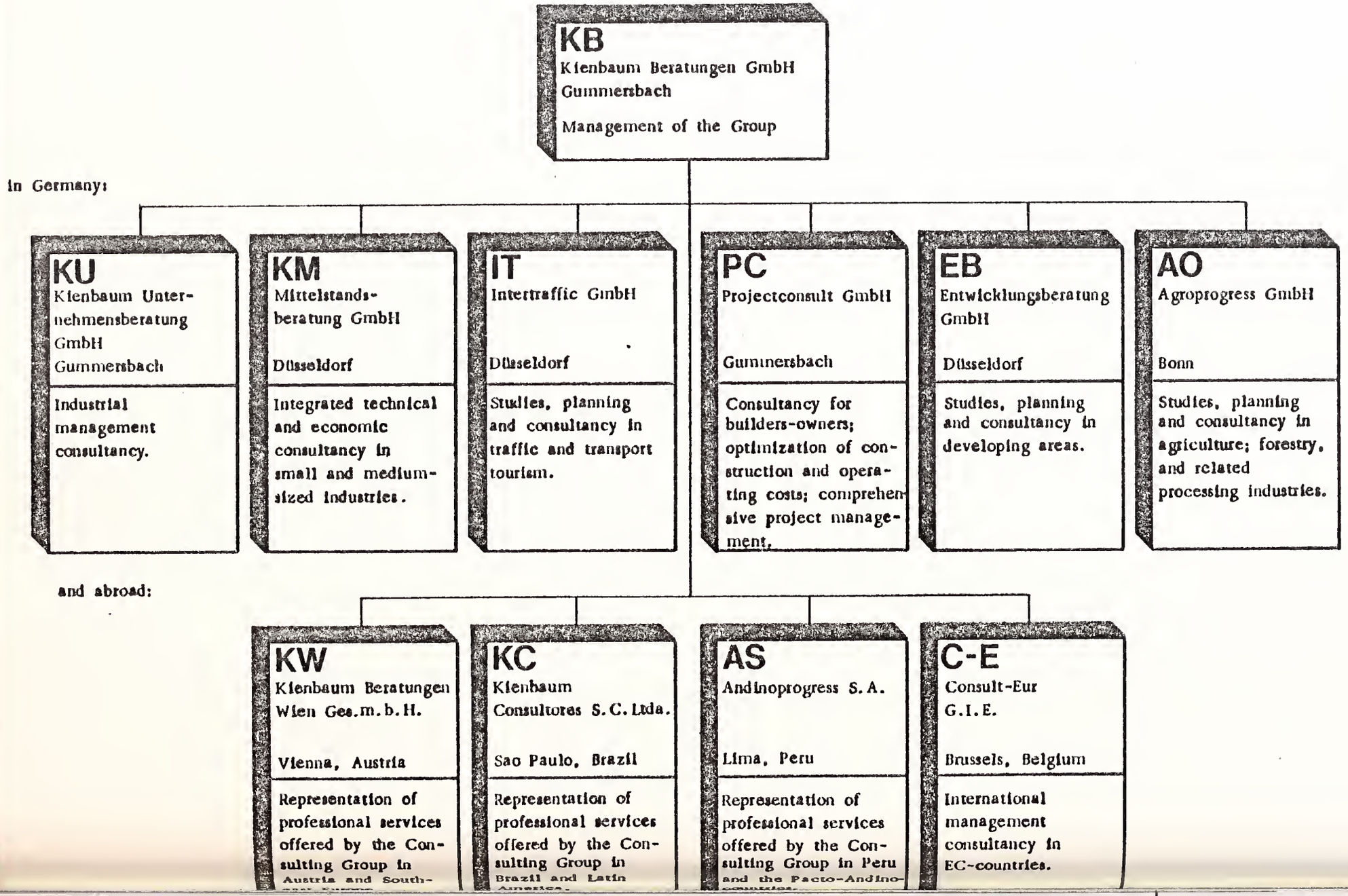
- Within each of these sectors, the following services are offered:

  - Studies, surveys, development planning
  - Consulting of development institutions
  - Implementation of development programmes
  - Market and feasibility studies
  - Planning and supervision of investment projects
  - Consulting and advising companies and institutions in policy formulation, planning and implementation of their corporate management strategy

- Consulting and advising companies to improve and strengthen their effectiveness and competitive ability by better management organisation and operation
- Consulting and supporting companies in their search and selection of investment opportunities, know-how and joint venture partners
- Integrated project management for investment projects, joint ventures, acquisitions, re-organisation efforts, etc.

- Co-operating Consulting Companies in Foreign Countries:

UK	P-E Consulting Group Limited, London
France	AVA Andre Vidal & Associes, Paris
Netherlands	RBB Raadgevend Bureau Ir. B.W. Berenschot B.V., Utrecht
Italy	SOA Studio Organizzazione Aziendale, Torino
Greece	BCA Business Centre of Athens Limited, Athens
Turkey	PEM Plan Etüd Müsavirlik Limited, Istanbul
U.S.A.	MRPI Management Research & Planning Inc., Evanston, Illinois
Mexico	Aguilar Rivera y Cia., S.C., Mexico, D.F.
South Africa	P-E Consulting Group S.A. (Pty) Limited, Johannesburg
India	PPS Personnel & Productivity Services, Bombay
Bangladesh	Chemical & Engineering Consultants, Dacca
Malaysia	MIDFIC, Kuala Lumpur
Indonesia	P.T. ENCONA Engineers, Consultants, Architects, Jakarta
Philippines	SGV & Co., Manila
Hong Kong	The Hong Kong Productivity Centre, Hong Kong
Japan	Central Japan Institute of Industrial Management, Nagoya Higashi
Australia	P-E Consulting Group (Australia) Pty. Ltd., Sidney


KB
Kienbaum Beratungen GmbH
Gummersbach
Management of the Group
In Germany:
KU
Kienbaum Unternehmensberatung GmbH
Gummersbach
Industrial management consultancy.
KM
Mittelstandsberatung GmbH
Düsseldorf
Integrated technical and economic consultancy in small and medium-sized industries.
IT
Intertraffic GmbH
Düsseldorf
Studies, planning and consultancy in traffic and transport tourism.
PC
Projectconsult GmbH
Gummersbach
Consultancy for builders-owners; optimization of construction and operating costs; comprehensive project management.
EB
Entwicklungsberatung GmbH
Düsseldorf
Studies, planning and consultancy in developing areas.
AO
Agroprogress GmbH
Bonn
Studies, planning and consultancy in agriculture; forestry, and related processing industries.
and abroad:
KW
Kienbaum Beratungen Wien Ges.m.b.H.
Vienna, Austria
Representation of professional services offered by the Consulting Group in Austria and South-
KC
Kienbaum Consultores S.C. Ltda.
Sao Paulo, Brazil
Representation of professional services offered by the Consulting Group in Brazil and Latin
AS
Andinoprogress S.A.
Lima, Peru
Representation of professional services offered by the Consulting Group in Peru and the Pacto-Andino-
C-E
Consult-Eur G.I.E.
Brussels, Belgium
International management consultancy in EC-countries.

COMPANY HIGHLIGHT

JOSEF NIEDERMAIR
Systeme und Verfahren
fuer Intergrierte Datenverarbeitung
Becker - Gundahl Strasse 3
8 Munich 71

Tel. (089) 781262

Josef Niedermair
Proprietor
Private Company
Total Revenues 1978:
DM8.0 M
Total Employees: 100

THE COMPANY

- Josef Niedermair NM - IDV : (short for Niedermair - Integrierte - Datenverarbeitung i.e. Intergrated - Data Processing) specialises in Consultancy for Information Systems implementation.

- NM - IDV is associated with Niedermair Informatics, an international consultancy in Constanz.

- NM - IDV is composed of four divisions:
  - Management Consultancy Division
  - Organisational Consultancy Division
  - Testing and DSB Division
  - ECC Processing Division

- ECC PROCESSING DIVISION:

NM - IDV acts in close association with ECC (Environmental Control and Constructional Advice), a subsidiary of KLM (Dutch Airline). ECC is represented in West Germany by NM - IDV and offers consultancy and trouble shooting for DP Centres for the following:

- Information Systems Consultancy
- Installing/Re-organising DP Centre
- Planning of Installations and Control of DP Centre
- Recruitment and Training
- Testing of Systems
- Integration/Optimisation
- Provision of Hardware and Software

- Organisational Consultancy:
  Operational Systems, EDP and Programming
- EDP Consultancy and Planning:
  Software for Management,
  Production and Special Applications.

- SPECIAL APPLICATIONS FOR ECC (KLM):

  - Wind Speed Calculations
  - Pressure Control/Temperature Control
  - Calculation of Floating Dust Particles in Atmosphere
  - Fresh Air Flow Control to cooling system
  - Detection of Dangerous Gases
  - Radar Interference Detection
  - Occurence of dead spots and hot spots

- DATA SECURITY regulations have now been imposed by German law, thus the user can rely on total security of data.

HARDWARE

- NM-IDV's installation comprises the following computers:
  - IBM S/1
  - IBM 370/135
  - IBM 370/155
  - IBM 370/158
  - IBM 370/168
  - CDC 175
  - HEWLETT PACKARD HP1000 and HP2000

KEY PRODUCTS AND SERVICES

- DATALINE DIV - System is a software package for real time, time sharing, batch and multiprogramming (integrated) systems:

  - DATALINE/DIV 80-20: MARTOS-K (Multi-Access Real Time Operating Systems) for Program Development, Assembly, Testing and Operating.

- Languages: WASS-ASSEMBLER
  FORTRAN IV
  SL3 (Algol basis)
  BASIC
  PEARL

- DATALINE/DIV 80-40, 80-60: the full MARTOS System includes MSOS (Mass Storage Operating System), a real-time system.

- Languages: MAKROASSEMBLER
  FORTRAN
  BASIC
  AUTRAN (Variation of Pearl)
  RPG II

- NM-IDV claims expertise in the following industry sectors:

  - Real Estate
  - Construction
  - Universities
  - Medicine.

COMPANY HIGHLIGHT

Organisationspartner GmbH
Hamburger Strasse 225
2060 Bad Oldesloe 1
(04531) 81820

Herr Wilhelm Hichert
Herr Uwe Fock
Private
Total employees: 33
Total revenue (1978): DM 5.2

THE COMPANY

- Organisationpartner is specialized in consulting and implementation of a standard package based system for Management Accounting and Control called "Gewinnplannungs -rechnung" (GPR) (Profit Planning Accounting). The structure of the system follows the company organisation for achieving the objective of profitability with secured liquidity. Functional divisions chiefs of the concern are provided with congruent partial objectives and deviat from the plan are presented in actual vs plan comparisons with reasons for plan deviations clearly indicated - thus forming a basis for management decisions.
- Organisationspartner was founded in 1972. Its staff is organised into five groups corresponding to the technical areas.
  - Management consulting
  - EDP Management Accounting Systems(large installatio
  - EDP Management Accounting Systems (small installati
  - EDP Functional and Accounting Systems.
  - Computer Center
- The firms staff of 33 consists of:
  - 17 business managers, cost accountants and systems analysts.
  - 11 computer center personnel
  - 5 clerical personnel.

KEY PRODUCTS AND SERVICES

- Depending on the requirement, Organisationpartner accepts assignments full or partial assignments in the following areas:
  - conceptual organisation of the Management Control System and implementation / reorganisation.

- Planning and implementation of partial systems
- Cost Centre Accounting
- Project Cost Accounting
- Contribution Accounting
- Profitability Accounting
- Profit Center Accounting
- Organisation/Integration of related functional systems
- Reorganisation or integration with basic accounting systems.
  .. General Accounting (including Plant and Equipment)
  .. Wage and Salary Payroll
  .. Inventory
- Cost Center and Cost Type Planning
- Delivery and Integration of software or compilation of statements as computer center service.
- Conduct of seminars and workshops on the Management Accounting System (GPR) and partial systems as well as their interfacing to function and accounting systems.

• The Management Accounting Package consists of the following sub-systems.

- Cost Center Accounting (KST)* - Profitability Accounting (BER)*
- Profit Cost Accounting (KTR)* - Wage and Salary Payroll (PAS)
- Contribution Accounting (DBR)*

• The GPR system has been installed at installations of all major vendors for IBM equipment; it is available in COBOL.ANS for partition sizes of 144 KB and in RPG II for partition sizes 32 KB.

* These systems are publicly promoted by the German Ministry for Research and Technology.

INDUSTRIAL MARKET

• Organisationspartner has carried through projects for over 50 comapnies in the following branches:

- Machinery Manufacturing
- Printing and Publishing
- Plastic Materials
- Foundries
- Insurance
- Breweries
- Foodstuffs
- Automotive
- Chemical

HARDWARE

- IBM/370-125, 192K
- 6 Disk Drives, 70 MB each
- Printer 7200 lines/hr
- Reader/Punch
- Tape Drives

PDP 11/34
Terminal for Remote Computing

COMPANY HIGHLIGHT

SCS
Scientific Control Systems GmbH
Oehleckerring 40
2000 HAMBURG
Tel. 040/531 4011
Telex. 21 74113

E. Elsaesser, L. Hell
Dr. J. Schweim
G. Steinbach
Managing Directors
Limited Company
Total Revenues 1978: DM 42.7 M
Total Employees: 308

THE COMPANY

- Founded in 1969 by E. Elsaesser, formerly Hamburg branch manager for IBM, SCS has rapidly expanded to its present size with representative offices in Essen and Stuttgart (established in 1971), Munich (1972) and Frankfurt (1977). The Hamburg location, apart from being head office, controls the 'Central Projects' Division (special applications or industry projects for any part of Germany), the Hamburg branch which serves the Hamburg area, and in 1973 the SCS Academy was set up for training and seminar purposes.

- In 1966 C.E.I.R. of London (founded in 1960) was taken over by The British Petroleum Company Limited and named Scientific Control Systems.

  SCS was, until November 1978, owned by Scientific Control Systems (Holdings) Limited in London when ownership was taken over by the German subsidiary of BP.

- Expansion of SCS:

	TURNOVER DM	EMPLOYEES
1969	Approx. ½ M	14
1970	3 M	55
1971	6 M	93
1972	10 M	145
1973	14 M	209
1974	18.6M	242
1975	21.5M	265
1976	27.6M	296
1977	31.9M	308

- SCS serves primarily the German domestic market; from time to time projects are conducted in other European countries and in the Middle East.

- At first the company leased office space in the 'City Nord' area of Hamburg. They soon outgrew this accommodati and in 1975 moved into a new building which they had designed and purpose built to suit the needs of a project and people orientated operation in the computer systems business.

- SCS attributes its success to its policy of treating each client on an individual project basis complemented by good project organisation. The Company has developed a comprehensive range of methodology, documentation and management standards which are employed on all projects; only when the client insists on his own standards are they substituted for SCS standards.

- Consultancy and computer system projects are handled mainly on a time and materials basis; some computer systems containing both hardware and software are supplied on a fixed price turnkey basis.

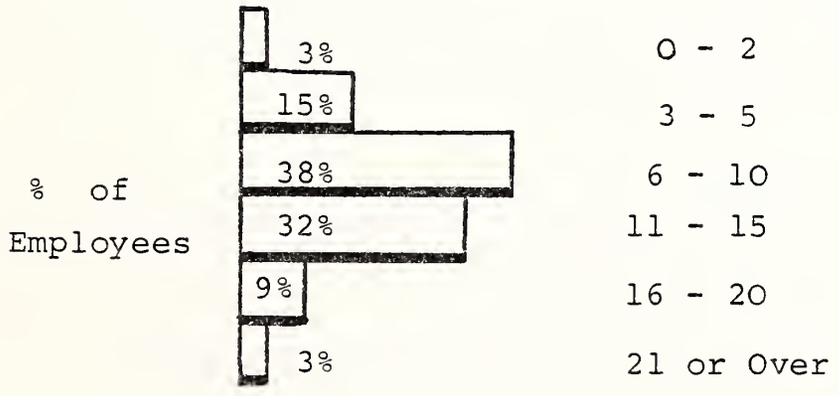
- SCS project staff all have a minimum of three years experience in industry and commerce of computer systems work. The average experience of staff is rather higher and their level of educational attainment can be analysed as follows:

  - University Graduates 57%
  - Further Education 24%
  - Other 19%

- The breakdown of staff into their specialised fields is as follows:

  - Engineers 33%
  - Mathematicians/Information Scientists 19%
  - Managerial/Administrative 16%
  - Physicists 11%
  - Other 21%

- SCS have a high level of staff which have been with the company over a long term. This is represented in the graph below:



KEY PRODUCTS AND SERVICES

- Management Consultancy
  - Strategic Planning
  - Organisational Planning
  - Operational Planning
  - Turnkey projects for Organisation and DP
  - Hardware and Software Strategies
  - DP Audits

- Organisational and Data Processing Systems
  - Marketing/Sales
  - Accounting
  - Personnel/Pay
  - Manufacturing
  - Data Bases
  - Communications Network
  - Military Systems

- Automation Techniques
  - Sales Data
  - Production Processes
  - Storage/Distribution
  - Maintenance
  - Communications
  - Laboratories
  - Air Traffic Control
  - Command and Control

- System Software
  - Operational Software
  - Compilers
  - Data Banks and Communications Systems
  - Utilities

- Turnkey
  - Laboratory Automation
  - Warehouse Control
  - Distribution/Despatch Control

000011

- SCS Academy

  - Seminars for Management
  - Seminars on Data Processing Systems and Techniques
  - Training

INDUSTRIAL SECTORS

- SCS has the expertise to serve any industry sector but is mainly active in the manufacturing industry which provices 24% of its total earnings.

- Financial institutions and insurance companies provide around I3% and 9.5% respectively of business followed by the Defence sector (IO.5%) and by national and local government sectors (8.5%).

  Other sectors include:

  - Publishing (7.7%)
  - Petrochemical Industry (4.6%)
  - Iron and Steel (3.I%)
  - Retail (2.8%)
  - Food Manufacturing (2.5%)
  - Utilities (2.O%)
  - Construction (I.8%)

- Clients include top German organisations but systems for medium sized users are available too (see client list).

Apart from a wide variety of user applications, SCS have a particular capability in the following areas:

- Management Consultancy

SCS are involved in a long term project for the diversification and optimisation of the Marketing/Sales structure for an oil company and have jointly established a Profit - Centre Organisation for the planning and running of the project.

Consultancy operations make up 20% of SCS's activities and are expected to increase steadily. Special attention is given to planning, structuring and diversification.

- Planning Models

SCS have developed a Financial Statement Model for a large German banking concern which processes profit maximisation models for 24 months. This model is now one of numerous projects which SCS offers to credit houses.

- EDP Audits

This service is the first step towards a restructuring and up-dating of DP departments for greater efficiency and flexibility for industrial and service companies.

- Turnkey Operations

Two thirds of SCS projects are developed in a joint association with the client. SCS collaborated with a life insurance company on a step-by-step turnkey project for the implementation of a system for internal and external accounting and administration.

- Production Planning and Control

  For one of the world's largest steel manufacturers SCS implemented a system for integrated production planning and control, involving order entry, production planning, material requirements etc.

  The processing is based on a hierarchical structure which has an in-built break-down proof relief system and lends itself well to chemical and manufacturing industries.

- Accounting System

  SCS concepted and implemented an EDP system for complete accounting procedures for a brewery.

  This application software system has been tailored and implemented for over 100 medium sized users.

- Warehousing/Storage System

  This is a system which has been highly successful for automatic high storage in warehouses.

- Computerisation of Laboratories

  SCS has perfected a turnkey system for the automation of laboratory applications such as patient monitoring, medication supplies and prescriptions, identification of tests and patient and laboratory reports.

  The laboratories are linked up by a communications network system integrated with microprocessors for laboratory instrument control.

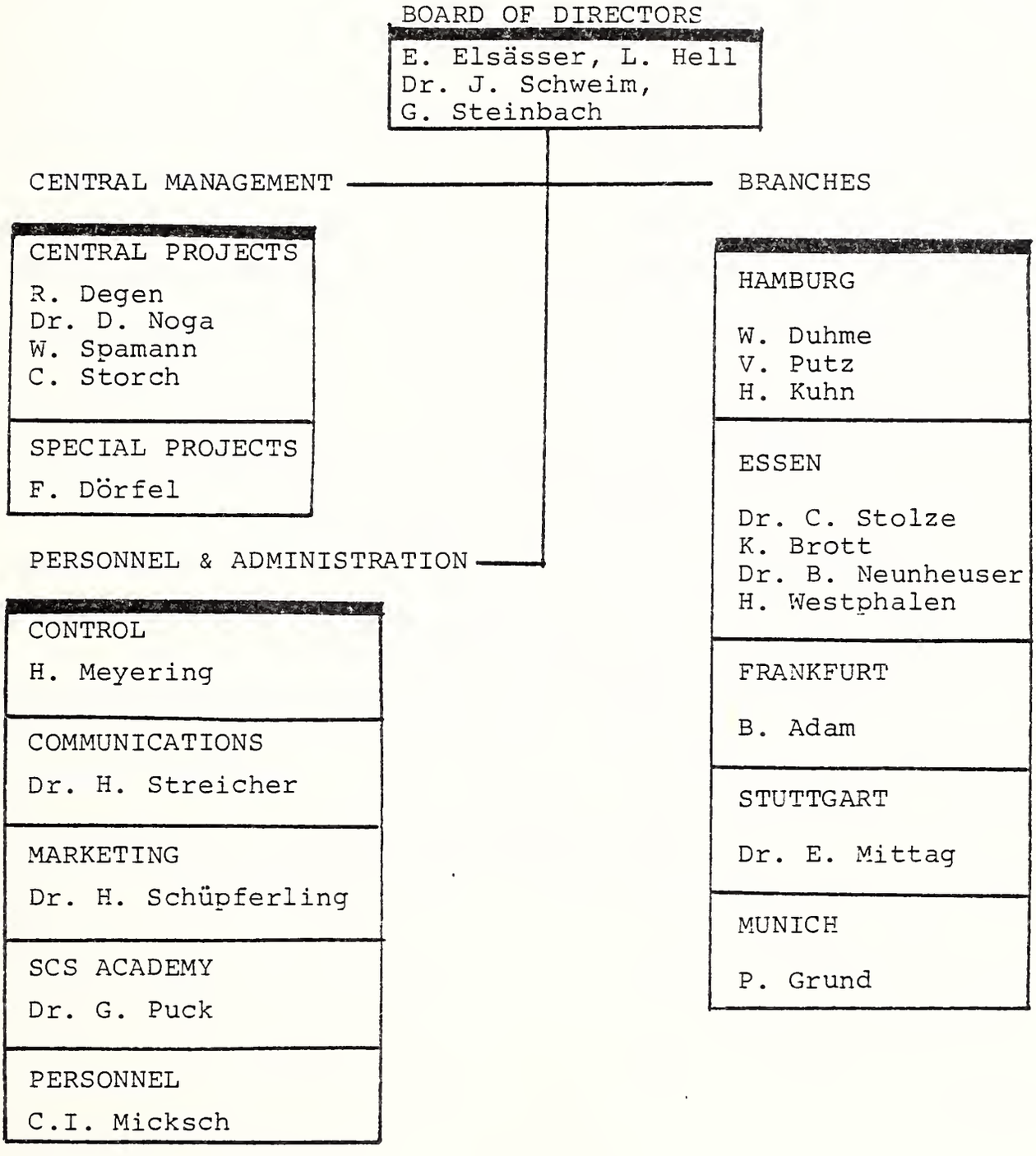
This turnkey system involves the entire design and planning of hardware and software, the development, installation and implementation of same as well as the training.

- Systems Software

SCS has developed a relief system which comes into operation automatically should any breakdown occur in any single process.

A totally reliable system is essential for sales data, maintenance, warehousing, data bank and communications applications.

ORGNISATION STRUCTURE OF SCS



BRANCHES

SCS
4300 ESSEN III, Hagen 43
Telephone: 0201/23 30 91
Telex: 35 79 738

SCS
7000 STUTTGART 80 Breitwiesenstrasse 27
Telephone: 0711/73 40 23
Telex: 72 55 867

SCS
8000 MUNCHEN 2, Sonnenstrasse 25
Telephone: 089/55 45 13
Telex: 52 49 71

SCS FRANKFURT am Main 1
Friedrich-Ebert-Anlage 2-14
Telephone: 0611/74 03 01
Telex: 411 002

SCS ACADEMY
2000 HAMBURG 62, Oehleckerring 40
Telephone: 040/531 40 11

CLIENTS

AEG TELEFUNKEN
Allgemeine Rentenanstalt AG
Allianz Lebensversicherungs AG
Axel Springer Verlag AG
B.A.T. Cigaretten Fabriken GmbH
G. Bauknecht GmbH
BayWa Bayerische Warenvermittlung AG
Brigitta & Elwerath
Bundesamt fur Wehrtechnik und Beschaffung
Bundesanstalt für Flugsicherung
Bundesministerium der Verteidigung
Daimler Benz AG
DEMAG Systemtechnik GmbH
Deutsche Bank AG
Deutsche BP Aktiengesellschaft
Deutsche Genossenschaftsbank
Deutsche Lufthansa AG
Deutsche Unilever GmbH
ERNO Raumfahrttechnik GmbH
Felten & Guilleaume
Gasversorgung Süddeutschland
Gerling Konzern
Gothaer Versicherungen
Gruner & Jahr AG
Hamburger Adressbuch Verlag
Holsten Brauerei
Iduna Versicherungen
Krupp Atlas Elektronik
Landesversicherungsanstalt Oberbayern
Magirus-Deutz AG
Messerschmitt-Bölkow-Blohm GmbH
Porsche AG
Rasselstein AG
Robert Bosch GmbH
Siemens AG
SEL Standard Elektrik Lorenz AG
Stadtsparkasse Essen
Südmilch AG
Thyssen AG
VAW Vereinigte Aluminium-Werke
Viksfürsorge
Volkswagenwerk AG
Wacker-Chemie GmbH
Württembergische-Feuerversicherung AG
ZDF - Zweites Deutsches Fernsehen

COMPANY HIGHLIGHT

UNISERV KARL-HEINZ KRUG OHG,
Westliche Karl Friedrich-Strasse 27,
7530 Pforzheim
(07231) 17031

Karl-Heinz Krug, Günter Herze
Maria Huck, Roland Pfeiffer
Total employees: 50
Total Revenue 1978: DM 4.0 M

THE COMPANY

• UNISERV offers professional services for the classical applications of commercial data processing to industrial, trading, mail order houses and public administration. The firm claims detailed experience in bill of materials processing and other materials management programs. Address processing and administration is a special strength of Uniserv who market several program packages. Data entry and computing services round out Uniserv's offerings.

• UNISERV was founded in 1969. All of its personnel have busines or technical diplomas and several years of data processing experience. The organisation of the firm is:

- Software development
- Systems Consulting/Analysis, Programming
- Systems Planning
- Marketing/Customer Service
- Computing Services
- Data Entry
- Administration

• UNISERV intends to expand its software development and applications programming and extend its marketing presence throug independent representatives. Contacts throughout Europe are being established.

KEY PRODUCTS AND SERVICES

- Vendor independent systems planning
- Systems Analysis and Programming
- Computing Services
- Data Entry
- Software Packages
  - Address Processing and Administration. These systems occupy a central place in Uniserv's program:
    - Uni-Avis: Address Administration and Information System
    - Uni-Mail: Address Doubles Elimination
    - Uni-Address II: Direct Mail Data Bank System
    - Uni-PLZ: Townships name and postal zone code Converting Program
    - Uni-Aduva: Conversion of Addresses to large/small print
    - Uni-Label: Address Label Print Program
    - Uni-Convert: Conversion of Address Layout
    - Uni-Letter: Computerized Letter Writer
  - Uni-SLG: Payroll for Large Systems
  - Uni-SLG/3: Payroll for IBM/3
  - Uni-Verbuch: Standard Accounting for Mail Order Business
  - Uni-Fakt: Standard Billing for Mail Order Houses, Trading & Industrial Companies
  - Uni-LST: Payroll Tax Sub-Program
  - Uni-Source: Analyses and Documents on RPG II Source Program

HARDWARE

At Uniserv's disposal are:

- IBM 370/135, 192 KB, Disk, Tape, DOS
- IBM 370/145, 512 KB, Disk, Tape, OS/VS
- Key Punch (80 & 96 columns)

(iv) BELGIUM/LUXEMBOURG

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DISTRIBUTION OF SAMPLE COMPUTER SERVICES COMPANIES IN BELGIUM BY 1978 TURNOVER AND PRINCIPAL ACTIVITY

MAIN ACTIVITY	TURNOVER (US $)								ALL WITH T/O		SAMPLES AS % OF TOTAL POPN.
	10M "A"		10M - 1M "B"		1M - .1M "C"		0.1M "D"				
RCS BUREAU	1	0.6%	7	4.3%	7	4.3%	-	-	15	9.3%	71% of 21
BATCH BUREAU	1	0.6%	11	6.8%	22	13.7%	6	3.7%	40	24.8%	77% of 52
SOFTWARE AND PROFESSIONAL SERVICES	-	-	9	5.6%	45	27.9%	38	23.6%	92	57.1%	84% of 109
OTHER (EG COM, DATA PREP.)	-	-	1	0.6%	4	2.5%	9	5.6%	14	8.7%	67% of 21
ALL WITH T/O.	2	1.2%	28	17.4%	78	48.4%	53	32.9%	161	100%	79% of 203

EXHIBIT V-C.4

COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
AAS	*					*		
ACEC/CTI	*	*		*	*	*		
ADMINISTRA DATA CENTER								
ADP NETWORK SERVICES INT INC	*	*	*	*	*	*		
A.E.M.	*	*			*	*		
AIDE INGENIEURS CONSEILS				*	*	*		
A.I.H.M.	*	*				*		
A.I.M.	*	*				*		
A.I.S.	*	*		*		*		
AKKURAAT	*							
ALGEMEEN BUREAU VOOR ACCT.								
ALPHA INFORMATIC				*	*	*		
ANPROPER	*	*				*		
ARCHER SMITH AND ASS.					*			
ARTHUR ANDERSEN				*	*	*		
ASSO DATA						*		
ATIL								
AUTOMATION CENTRE								
AUXIFIDES	*							
BAES, J. INFORMATIQUE	*					*		
BANQUE NAGELMACKERS								
BERENSCHOT				*	*	*		
BOSEMEC	*							
BPD	*	*				*		
B.R.O.						*		
B.S.T.	*					*		
BUREAU MARCEL VAN DIJK					*	*		
BURROUGHS	*	*				*		
CABINET GILLES								

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
CAM								
CAP GEMINI				*	*	*		
CAS				*	*			
CDC	*	*			*	*		
CEDEC				*	*	*		
CEGOS CONSULT								
CEGOS TYMSHARE EUROPE					*	*		
CENTRE DE CALCUL DE MOUSCRON								
C.D.O.								
C.E.O.								
CEPIA	*							
CEPOC	*	*	*	*	*	*		
CEVI	*		*	*		*		
CHASE ECONOMETRIC						*		
C.I.A.								
C.I.A.B.		*				*		
CIEREM				*		*		
CIFAS								
CIG	*	*	*	*	*	*		
CIGER				*		*		
CIM	*	*		*	*	*		
CIMO	*	*	*	*	*	*		
CINCOM SYSTEMS INTERNATIONAL			*	*	*	*		
CIPA	*	*		*		*		
CMG	*		*	*	*	*		
CMI								
CODAMA	*		*	*		*		
COCEMO	*	*		*	*	*		
COI		*	*	*	*	*		

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
COMECAN	*	*				*		
COMPUDIAM								
COMPUTATOR								
COMPUTER ASSISTANCE				*	*	*		
COMPUTER ASSOCIATES								
COMPUTER RESOURCES								
COMPUTER SCIENCES EUROPE								
COMPUTER SERVICE CENTER	*					*		
COMPUTER SHARING	*	*				*		
COMPUTER SOFTWARE CENTRE				*	*	*		
COMPUTER SERVICE INTERNATIONAL	*	*		*	*	*		
COMSHARE				*		*		
CONSULT EUR				*	*	*		
CONTINENTAL COMPUTER COMPANY						*		
CONTINENTAL COMPUTING				*		*		
CONTINFOR								
CORRELATIVE SYSTEMS INT	*		*	*	*	*		
C.P.E.O.	*	*	*	*	*	*		
CPP				*	*	*		
CULLINANE BENELUX				*				
DAAB				*	*	*		
D.A.I.				*		*		
DATABEST				*	*	*		
DATAKOR								
DATA MANAGEMENT				*	*	*		
DATA OFFICE								
DATA PEN			*		*	*		
DATA PROCESS			*	*	*	*		
DATA SERVICE EUROPE	*			*	*	*		

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
DELTA MANAGEMENT					*			
DENNIS BODDEN						*		
DEWEER ROBERT								
DIGILEC			*		*	*		
DIVERMO	*			*				
D.M.C.				*	*	*		
D.R.I. EUROPE					*	*		
EFFICIENT				*		*		
EGESCO					*	*		
ELORG BELGIE	*	*	*		*	*		
ERIA SERVICES	*			*	*	*		
EUDATA	*	*		*	*	*		
EUROPEAN SYSTEMS PARTNERS				*	*	*		
EVEREST				*	*	*		
F.E.C.								
FIDABEL	*					*		
FIDUCIERE D'ETUDES et GESTION					*	*		
FISCALE, LA	*					*		
GDM SAISIE					*	*		
GENERAL SERVICES	*	*		*		*		
GERAC	*	*			*	*		
GETS	*					*		
GREGG SERVICES	*							
GTS		*			*	*		
IBM BELGIUM	*	*				*		
ICKX, PIERRE					*			
I.C. SYSTEMS				*		*		
ID MECANOGRAFIE EN PROGRAM								
IES					*	*		

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
IGO			*	*				
INEX			*	*	*	*		
INFODATA				*	*	*		
INFORAMA BENELUX			*		*	*		
INFORMATIQUE DISTRIBUTION	*	*		*		*		
INFORMATIQUE PME	*			*		*		
INFORMATIQUE PR. O.G.	*	*		*				
INFORMEL				*	*	*		
INOREC			*	*				
INSTITUUT 2000	*					*		
INTERACTIVE SYSTEMS				*		*		
INTERCANDY DATA CENTER	*							
INTERDATA BENELUX	*	*	*	*		*		
INTERLABOR INTERIM								
I.P. SHARP					*	*		
I.SO.COM MAKELAARS				*		*		
I.T.I.	*		*	*		*		
JANIMEX								
KETELS	*					*		
KUYPERS								
LA VOIE MECANOGRAPHIQUE	*			*				
LIRIC	*					*		
LMI								
MACOBEL			*	*				
MANDATA					*	*		
MANPOWER					*	*		
MAS								
MCS					*	*		
MQ INFORMATIQUE INTERNATIONAL								

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
MECANOGRAFIC SERVICE				*				
MECAVOLOC	*			*	*	*		
MEDIOR	*					*		
METHODE NOUVELLE				*		*		
MICROCOMPUTING					*	*		
MORET ET LIMPERG								
NCR BELGIUM								
NORON			*	*	*	*		
OFM								
ORDA-B	*	*		*	*	*		
ORDINA BENELUX								
PA MANAGEMENT CONSULTANTS			*	*	*	*		
PARAMIN				*	*	*		
PATRONAAL CENTRUM VOOR MECANOGR.								
PEAT MARWICK MITCHELL & CO.					*	*		
PERFORINCO	*	*	*	*	*	*		
PLANNING AND SERVICES								
PRADI	*		*	*		*		
PRICE WATERHOUSE				*	*			
PROLOGIKA				*	*			
REAL TIME COMPUTING				*		*		
REKENCENTRUM SECUREX	*			*		*		
RENIER INFORMATIQUE								
REYMAN DATA CENTER								
RODELCO				*	*	*		
SATA								
SBERI	*	*		*	*	*		
SCIA				*				
S.D.I.				*				

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
SERVI & TECH						*		
SGAB	*		*	*	*	*		
S.G.I.	*		*	*	*	*		
SIGES			*		*	*		
SLIGOS BENELUX	*	*	*	*	*	*		
SNICK & FILS	*	*						
SOBEMAP			*	*	*	*		
SOCIETE WALLONNE	*			*	*	*		
SOC INFOR						*		
SODACO				*				
SOFTWARE				*				
SOCIETE DE MECANOGRAPHIE								
SOGESER SYSTEMS	*	*		*	*	*		
SOPRES	*		*	*	*	*		
SPESI				*	*	*		
STERIABEL				*	*	*		
STOCK DATA SYSTEMS				*				
SYSTEMS RELIABILITY EUROPE								
TARGET SYSTEMS				*	*			
TELEDATA					*	*		
TELEGESTION			*	*	*	*		
TIGER LEASING GROUP								
T.I.M.	*	*			*	*		
TRACTION ELECTRICITE				*	*	*		
U.C.L.	*	*	*			*		
URWICK INTERNATIONAL								
VLABRIC		*	*	*	*	*		
WETENSCHAPPELIJK REKENCENTRUM	*	*		*				
Y.G. BUSINESS DATA PROCESSING CONS.				*	*	*		

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
LUXEMBURG								
CENTRE DE GESTION	*	*		*	*	*		
IBM BELGIUM	*	*				*		
STERIALUX				*	*	*		

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COMPANY HIGHLIGHT

ARTHUR ANDERSEN & CO.
AVENUE DES ARTS 56
BRUSSELS

TEL: 02/513.6436

Managing Director
G. Gijsemans

Total Staff 22

THE COMPANY

- The Arthur Andersen Administration Service Division is the part of the organisation in Belgium with a total staff of 120 which provides the systems and consulting services, and it is rapidly expanding with a present staff of 22 people.

PRODUCTS AND SERVICES

- The products and services provided in Belgium are based on the experience of the Arthur Andersen group world wide, a variety of services are provided in the following areas.

  Finance

  In finance, our work includes long and short-range planning, financial modeling, responsibility reporting, general accounting, transaction systems, cash management, capital budgeting, accounts payable, payroll and related financial activities.

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Marketing

In marketing, we assist clients primarily with their marketing and planning and reporting systems. We develop product management systems covering elements such as pricing, studies of promotion and advertising, and sales forecasting. We work with sales administration systems, such as customer profiling, territory management, salesperson compensation and sales channel selection and evaluation. We also develop customer service systems involving order processing, credit evaluation and control, warehousing, traffic, physical distribution and planning.

Operations

In operations, we develop systems that assist companies in acquiring and controlling personnel, material and facilities. This may involve resource planning, inventory management, purchasing controls, labor and other resource scheduling, and productivity controls.

Information Processing Systems

The information processing services our firm provides are, perhaps, the broadest of any comparable organization, ranging from the design and installation of computer systems to assistance in projects to improve the effectiveness of computer use.

The following are some of the systems and installation aids we have develop ed to enhance our ability to answer client's needs:

Financial Systems

Accounting Systems for Small Business (RPG II)

General Ledger and Responsibility Reporting
Accounts Payable
Accounts Receivable
Payroll

FIN-PAC (Financial Planning and Control System)

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Manaufacturing Systems

MAC-PAC (RPG II)

(Manufacturing Planning and Control System Small and Medium-Sized Companies)

MAC-PAC (COBOL)

(Manufacturing Planning and Control System for Medium-Sized and Large Companies)

Marketing and Distribution Systems

Marketing Analysis System

Distribution Control System

System Support Aids

LEXICON Data Dictionary

LEXICON Report Writer

LEXICON Data Entry and Validation System

GEM (Generalized Executive for Modeling)

STEP-3 Project Control

AUDEX (Audit Exact System)

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These software packages - as well as others not listed here -are fully tested, documented and supported. The software development and support activities are coordinated by our Technical Services Organization located in Chicago (USA), in New-York (USA) and in three Software Management Centers in Europe: Hamburg, London and Paris.

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COMPANY HIGHLIGHT

C.I.G. S.A.
Centre d'Informatique Generale
rue de la Chancellerie, 13
1000 BRUSSELS

TEL : 02/513.41.10

P.M. OURY
President
E. de VILLEGAS DE CLERCAMP
President of the board of directors
M. DELACROIX
Director
Group turnover 720M BF
Fiscal Year ending 31/12/78
Total staff 400

Affiliated Companies : C.I.G ALFA (Antwerpen), C.I.G Liege, C.I.G Charleroi, G.T.S (General Time Share), G.E.M.C., HISPABELSA (Madrid)

THE COMPANY

- CIG was created 3rd March 1969 with a capital of 50M BF by Union Miniere (Mining and Metal Industry) 50% and Belgonucleaire (Nuclear engineering and research) 50%. The two companies combined their expertise, people and computer hardware, with a total starting staff of 45 people.

- In 1970, CIG participated in the creation of an affiliated company, GTS (General Time Share).

- In 1972, the biggest Belgian private bank, Societe Generale de Banque, became the major shareholder by doubling the capital of the company. In 1972 the shareholding was :

  - Societe Generale de Banque 50%
  - Union Miniere 25%
  - Belgonucleaire 25%

- In 1973 CIG formed a new company: CIG ALFA (Antwerpen), together with the group Compagnie Maritime Belge and Agence Maritime Internationale (CMB-AMI) of which the shareholding is CIG 60% - CMB-AMI 40% ; this was their first operational office outside Brussels.

- In the same year GTS and the local Honeywell timesharing operation merged into GTS (40% CIG - 60% HB-NIS) and began representing the GE Mark III service in Belgium.

- The Fabrique Nationale de Herstal (Shareholder in Browning, USA) joined in the creation of CIG Liege (51% CIG - 49% FN).

- In 1976 an agreement was reached with CISI (Compagnie Internationale de Services en Informatique, Paris) for the marketing of CISI products and services in Belgium. CIG also participated (30%) in Hispabelsa (Madrid), the other 70% being owned by Banco Hispano Americano.

- A new joint venture, CIG Charleroi, and a maintenance company, GEMC were started in 1978, with Cableries de Charleroi and the Societe Cooperative d'Informatique. Other branches of the company exist in Brugge, Gent, Namur and Oostende. Abroad, CIG develops agreements for activities in Latin America. By the end of 1978, the group had 400 people and a turnover approaching 1000M BF. It is the largest Belgian computer services company.

KEY PRODUCTS AND SERVICES

- International and National Networks:

  - The national network of CIG has four computer centres located in Brussels, Antwerpen, Liege and Charleroi, interconnected by high speed lines; access is also provided in other main cities in Belgium. This computer power can be used by customers in Batch, RJE and Real time mode.

  - CIG offers international links with CISI (Paris) on their IBM and CDC computers. The systems available are APL, TSO and Kronos-nos. Many

application programs in the scientific, industrial and management area are provided.

- Through its affiliate GTS, access is provided to the Mark III service of the General Electric Company in the U.S. and throughout the world.

- Program products.

  - CIG has developed an important number of program products for Management applications:
    - accounting
    - sales analysis and billing
    - personnel applications and payroll
    - survey analysis

  - Scientific applications:
    - chemical
    - electricity, nuclear
    - construction
    - mining

  - CIG provides aids to computer departments in the development and use of applications through its specialized computer methodology.

  - Recently CIG began attacking the distributed processing market through the use of microcomputers on users site, connected through a network to the CIG computer centres. CIG has already installed more than 1000 units of these microcomputers. GEMC its affiliate, ensures the delivery and maintenance of hardware.

GEOGRAPHIC COVERAGE

- CIG has hardware centres in Brussels, Antwerpen, Liege, Charleroi and Brugge, commercial centres in Oostende, Gent, Charleroi, Namur and technical service centres available in Brugge, Kortrijk, Gent, Antwerpen, Brussels, Leuven, Mons, Namur, Liege, Villers-le-Bouillet.

PRODUCT AND MARKET STRATEGY

- The product strategy of CIG is based on four main axes:

  - connection of microcomputing to powerful hardware by means of data networks
  - providing central computer power
  - installing distributed microcomputing at user sites
  - sales of application programs in several areas, mainly general accounting, Pert, mining prospection and exploitation,

  The market strategy of the company is to provide these products and services to large as well as to small and medium companies.

COMPANY HIGHLIGHT

ORDA-B N.V.
BIERBEEKSTRAAT 89
3040 KORBEEK-LO

TEL : 016/23.99.00

CHAIRMAN
G. Declercq
Executive Manager
J.H. Mutton
Turnover 200M BF
Fiscal Year Ending 31/12/78
Total Staff 120

Offices in BRUSSELS, ANTWERPEN, KORTRIJK, HASSELT, MAASMECHELEN, HEVERLEE.

THE COMPANY

- The company was established at the end of 1970 and comprises four shareholders:

  - KUL (Katholieke Universiteit Leuven),
  - Kredietbank,
  - Boerenbond (Belgian farmers organisation)
  - VRW (Vereniging van Kristelijke werkgevers, Association of Employers).

  Each of them are holding 25% of the shares.

- At the creation of the company two branches were set up, one in Korbeek - Lo (Near Louvain) and another in Antwerpen. In the following years other branches were created in Kortrijk, Hasselt and Brussels. During the year 1976 a Company in the province Limburg, L.M.C. (Limburgs Mecanografisch Centrum) was acquired.

- A second branch was created in Brussels by the take-over of NEA, a local service bureau already using the facilities of ORDA-B. In 1978 the two Brussels branches merged in a new building.

- In the end of 1976 ORDA-B which was oriented towards the northern part of the country, started to market its services in the southern part.

- The turnover of the company increased rapidly:

  - 1976 36M BF
  - 1977 165M BF
  - 1978 200M BF.

- ORDA-B also pursues cooperation on a European level. For this purpose, an agreement has been concluded with RAET, a Dutch service bureau. The agreement has been widened with ALL-DATA SERVICES in Germany.

THE ORGANISATION

- Through its several branches, ORDA-B offers its various services on a local distributed level. The marketing and Technical departments are concentrated in Korbeek-Lo and Brussels. A rapid expansion of the Brussels branch is expected in the coming years.

HARDWARE

- ORDA-B shares with one of its shareholders the IBM 370/158 computer in Heverlee (Memory 4000K). Large disk and tape memories with extensive tele-processing possibilities are made available to customers. Back-up facilities are provided by two other shareholders configuration: the Kredietbank and the Farmers Organisation, who have together 4 IBM 370/158s available linked to ORDA-B.

- At the beginning of 1979 the main IBM 370/158 will be upgraded by a second configuration of the 3033 series.

- In the five main branches, terminals are available for customers, mainly DATA 100s.

PRODUCTS AND SERVICES

- On its IBM 370/158 ORDA-B offers to its clients the opportunity to link their computer, terminal or minicomputer through telephone lines.

- Products offered are :
  - Local Batch processing,
  - Remote Job entry,
  - Interactive applications (T.S.O. and A.P.L).

- The main languages are : Assembler, BASIC, COBOL, FORTRAN, PL1, APL, RPG II.

- A large experience has been gained with the following terminals or Minicomputers: IBM, Data 100, Datapoint, Olivetti, Wang, Texas Instruments.

- ORDA-B also offers Facilities Management, using the IBM S/1 and the Texas Instruments. A whole range of application programs has been developed for both systems.

- The company provides consulting, advice, programming, analysis, training and development.

- Packages include :

  - Finance and accounting
  - Social security and payroll,
  - Production systems,

- Insurance
- General business systems (order-entry, stock, invoicing, General Ledger)
- Health organisation,
- Mailing
- Market research and statistics
- Generation of systems programs (PAC).

COMPANY HIGHLIGHT

PARAMIN INTERNATIONAL CORPORATION
20 Avenue de L'armee
1040 Brussels

TEL : 02.736.1074

President
John B. Mikle
Vice President and
Managing Director Brussels
Gary J. Angstadt
Staff Brussels: 3

THE COMPANY

- Paramin International was established in Belgium in 1976 and is a 90% owned subsidiary of Paramin Ltd, Massachusetts, U.S.A., which was founded in 1974 and 10% Gary J. Angstadt. In 1978 the company established an office in the United Kingdom to provide a mini and micro computer consultancy to the U.K. market.

- Paramin International maintains a fully staffed office in Brussels, for the purpose of providing consultant services to the Belgium and other European markets. The staff and capabilities in Brussels parallel the same expertise as available in the U.S.A. by Paramin Ltd.

- The company was founded as a systems and software engineering organisation with the express purpose of providing software expertise to the minicomputer and microcomputer industries. Great care is taken in attracting highly qualified and motivated staff with several years of experience in software design and development.

- Paramin has a client base which includes electronic research and development firms, high technology engineering and manufacturing companies, scientific agencies, and mini/micro computer manufacturing companies.

PRODUCTS AND SERVICES

- Paramin is a systems development and software engineering firm providing consultant services to the minicomputer and microcomputer industries. Paramin's client base includes both end-users and manufacturers of mini and micro computers in Europe, Asia, and America.

- Paramin continues to develop and has provided resources (its staff and technical expertise) to clients in the following areas:

  Operating Systems:

  - Real-time executives
  - Multi-user minicomputer resource and timesharing operating systems
  - Microcomputer executive, multi-tasking systems

  Compilers, Interpreters, and Assemblers:

  - Cross-assemblers for mini and micro computer systems
  - Macro-assemblers
  - Link editors and mapping systems
  - BASIC interpreters
  - Structured language compilers

  Diagnostic Software:

  - Computer diagnostic systems for testing of micro-processors, memory, arithmetic components, data/address/control busses, interrupts, instrumentation busses, and logic networks

- Specialized diagnostic software for testing of modules and peripheral devices

- Remote testing of target processor and source-level software

Communications Software:

- Applications, drivers, link and access level software for remote terminal to host communications

- Communications network design involving minicomputers and microprocessors employed as switches, concentrators, and network control nodes

- Bit and byte syncronous protocols including bisync, HDLC, and X.25

Database Design and Access Methods:

- Design of hierarchical data base structures and access techniques operating in conjunction with real time systems

- Development of keyed access systems including ISAM

- Implementation of security and privacy techniques at the volume, file, and record access levels

I/O Drivers:

- Specialized drivers for instrumentation sensor and discrete I/O

- Software drivers and operating system integration for device interfaces

Applications:

- Process monitoring and feedback control systems for industrial discrete and continuous flow systems
- Subscriber and truck line switching systems
- Production and inventory control systems

STRATEGY

- Paramin's success and reputation are a direct result of its client relationships. All work is done on a contract basis with a majority contracted on a fixed price basis. Most of Paramin's systems development projects are the primary responsibility of Paramin's project team, whether that be one person or several. All projects are closely managed by Paramin and include meaningful status reporting to client personnel.

- Paramin's marketing philosophy is to acquire contracts requiring both design and implementation of software systems. All members of Paramin's staff are experienced in design as well as software implementation and are therefore capable of performing all phases of project development: from functional design through system test and integration.

- Through the use of structured design techniques, structured programming even at the assembly language level, project management, documentation, and the ability to complete projects within time and budget goals, Paramin's clients have found that the software developed is human engineered, easy to maintain, and reliable. This in return has given Paramin success, the ability to grow, and an excellent reputation.

COMPANY HIGHLIGHT

SOBEMAP
Place du Champ de Mars 5 Bte 40
1050 Brussels

TEL : 02-5125990

Managing Director
B. van Ommeslaghe
Manager SGAB
P. Roussel
Total Staff: 110
Turnover: 180M BF.

THE COMPANY

- Sobemap was formed in 1960 and is owned by:
  - Metra International Group 51%
  - Electrobel 49%
- In the group there are; SGAB, which is the computer service division, and Mecavoloc, the consulting and hardware division. There are also affiliated companies in Algeria, Brazil, Zaire and the Ivory Coast.

KEY PRODUCTS AND SERVICES

- Sobemap market a variety of packages including:
  - COGEN (General Accountancy)
  - SALPAC (Payroll System)
  - MEGA (Files Organisation System)

- SYMPAC (System for Administration)
- B.D.G. (System for the Building Industry)

- The key services include:
  - Applications Software
  - System Software
  - Turnkey Systems
  - T.P. Software and Applications
  - Real Time Systems
  - OEM Agreements

- These services are aimed to cover all the main industrial applicability areas.

GEOGRAPHICAL COVERAGE

- Brussels
- SGAB Brussels, Liege
- Mecavoloc Brussels, Antwerp

HARDWARE

- PDP 11/70 x 2
- Honeywell x 2

(v) NETHERLANDS

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DISTRIBUTION OF SAMPLE COMPUTER SERVICES COMPANIES IN THE NETHERLANDS BY 1978 TURNOVER AND PRINCIPAL ACTIVITY

MAIN ACTIVITY	TURNOVER (US $)								ALL WITH T/O		SAMPLES AS % OF TOTAL POPN.
	10M "A"		10M - 1M "B"		1M - .1M "C"		0.1M "D"				
RCS BUREAU	7	8.2%	8	9.4%	1	1.2%	-	-	16	18.8%	73% of 22
BATCH BUREAU	1	1.2%	17	20.0%	16	18.8%	-	-	34	40.0%	48% of 71
SOFTWARE AND PROFESSIONAL SERVICES	3	3.5%	16	6.8%	12	14.1%	1	1.2%	32	37.6%	28% of 114
OTHER (EG COM, DATA PREP.)	-	-	1	1.2%	2	2.4%	-	-	3	3.5%	6% of 50
ALL WITH T/O.	11	12.9%	42	49.4%	31	36.5%	1	1.2%	85	100%	33% of 257

EXHIBIT V-C.5

COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
ABC	x	x		x		x	o	
ACC	x			x		x	o	
ACOSO				x	x	x	o	
ADASCO	x	x		x	x	x	o	
ACT					x		o	
ADMINISTRATIVE COMPUTER							o	
ADP BENELUX	x	x		x	x	x	o	o
ADP NETWORK SER.	x	x		x	x	x	o	o
AKUUT						x	o	
ALPHA COMPUTER DIENSTEN	x	x	x	x	x	x	o	o
AMEV	x					x	o	
AMSTELBREIN	x			x		x	o	
APC					x	x	o	
ARBAT				x			o	
ARC	x	x	x	x	x	x	o	o
ARSYCOM		x		x	x	x	o	o
ASAD				x			o	
ASCA				x	x		o	
ASSO				x		x	o	
ASSOCIATED COMPUTER							o	
ATKINS	x	x			x	x	o	
AUDI					x	x	o	
AUTO-INFO		x		x	x	x	o	
AVA				x	x	x	o	
BAKKENIST, SPITS					x		o	
BARTELS				x			o	
BEAC						x	o	
BERENSCHOT				x	x	x	o	
BEIJNUM						x	o	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
BIT	x			x		x	o	
B.N.C.				x		x	o	
BOUWCOMPUTING	x	x		x	x	x	o	
BRAINWARE				x	x		o	
BRINK	x	x		x			o	
BRUKA						x	o	
BSO				x	x	x	o	
BULGERSTEIN							o	
BUREAU ELEKTRONISCH ADMIN.						x	o	
BUREAU INFORMA						x	o	
BURROUGHS	x	x				x	o	
BUXTON					x		o	
B.Z. ADMINISTRATIE					x	x	o	
C.A. COMPUTER		x			x	x	o	
CAP GEMINI			x	x		x	o	
CARUS				x		x	o	
C.A.S.						x	o	
C.B.A.	x			x	x	x	o	
C.B.I.	x				x	x	o	
C.D.C.	x			x		x	o	o
CENEK				x	x	x	o	
CENTRAL BEHEER (C.E.A.)	x	x	x	x	x	x	o	o
CENTRAL COMPUTING							o	
CENTRAL DATA	x			x	x	x	o	
Ce Pe I							o	
CIC						x	o	
C.M.G.	x		x	x	x	x	o	o
CODA							o	
COMMERCIEEL COMPUTER	x					x	o	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
COMBINED DATA CENTER	x				x	x	o	
COMPAID	x			x	x	x	o	
COMPAZ	x			x	x		o	
COMPU QUICK				x	x		o	
COMPUREGIO	x					x	o	
COMPU - SYSTEM				x		x	o	
COMPUTE SERVICE	x	x	x	x	x	x	o	
CABG						x	o	
COMPUTER ASSOCIATES			x		x	x	o	
COMPUTER BUREAU TEMPO	x	x	x	x		x	o	
C.C.C.	x				x	x	o	
COMPUTER CENTRUM ARNHEM	x	x	x	x		x	o	
COMPUTER CENTRUM DOETINCHEM						x	o	
COMPUTER CENTRUM EUROPA						x	o	
COMPUTER CENTRUM GRONINGEN	x	x		x	x	x	o	
COMPUTER CENTRUM L.T.B.							o	
CCN	x	x	x	x	x	x	o	o
COMPUTER CENTRUM PUBLICO	x	x				x	o	
COMPUTERDATA							o	
COMPUTER ORGAINZATION				x	x		o	
CPP			x	x	x	x	o	
COMPUTER PROMOTION HOLLAND					x		o	
COMPUTER SER. BUR. NIJMEGEN	x			x			o	
COMPUTER SERVICE HELMOND						x	o	
COMPUTER SERVICE HOLLAND	x		x	x	x	x	o	o
COMPUTER SERVICE GAMMA	x	x		x	x	x	o	
CVA					x	x	o	
COSYS			x	x	x	x	o	
C.S.I.				x	x	x	o	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
C.S.R.	x	x	x	x	x	x	o	o
C.V.I.	x	x		x	x	x	o	o
CYNDEX							o	
DATA ANALYS				x	x			
DATA DIVISION NED						x	o	
DATALOGIE	x	x	x	x	x	x	o	
DATAPOST BELGIUM				x	x	x	o	
DATA PROCESS	x	x	x	x	x	x	o	
DATA SERVICE					x	x	o	
DATAVAC				x	x	x	o	
DEKO						x	o	
DELTACOM	x			x	x	x	o	
DEPRAN				x		x	o	
DESISCO			x	x	x	x	o	
DIGITAL	x	x	x	x	x	x	o	
DONNELLEY VIER HAND	x				x	x	o	
DWARS					x		o	
E.A.R.	x	x	x	x		x	o	o
E.B.S.				x			o	
EDAS						x	o	
ELAN	x	x	x	x	x	x	o	
ELORG	x					x	o	
EMMELKAMP						x	o	
ENIAC	x		x	x	x	x	o	
ERAC	x			x	x		o	
EURO COMPUTER SERVICE	x					x	o	
EVERINK				x	x	x	o	
FARRINGTON	x				x		o	
F.D.O.		x		x	x	x	o	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
F.M.Y.C. RUIGROK			x		x	x	o	
FORMAT	x	x			x	x	o	
G.E.I.S.	x	x			x	x	o	
GELDERS OVERIJSSELSE	x				x	x	o	
GIMBRERE & DOHMEN				x	x	x	o	
GRAFICOM	x	x	x	x	x	x	o	o
HARMSEN				x	x		o	
HOLLAND AUTOMATION				x	x		o	
HOLLAND DATA PLAN	x	x		x	x	x	o	o
HOLLAND INTERNATIONAL				x		x	o	
HOLLAND REKENCENTRUM				x		x	o	
HOWARD NEDERLAND				x	x	x	o	
I.B.M.	x	x	x	x	x	x	o	o
I.E.A.	x	x		x	x	x	o	
IJSELBREIN	x			x	x		o	
INFOHOUSE			x		x	x	o	
INFONET	x			x	x	x	o	o
INFORMA						x	o	
INFORMAT			x	x		x	o	
INFORMATICS				x	x		o	
INFORMATIKUM	x	x	x	x	x	x	o	
INFO SYSTEMS			x	x	x		o	
INFOTECH	x		x	x	x	x	o	
INPUT						x	o	
I.C.S.				x		x	o	
INSTITUUT T.N.O.	x	x		x	x	x	o	
INTERNATIONAL PUNCHING						x	o	
INTERPROGRAM				x	x	x	o	
INTER SYSTEMS				x	x	x	o	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
INTOMART	x					x	o	
I.V.A.					x	x	o	
IVEV				x	x		o	
K.B.A. UNIMAC						x	o	
KLEVEN VAN				x	x		o	
KODAK				x	x	x	o	
KOKKELKOREN	x		x	x	x		o	
KRAAN				x	x		o	
KRECHTING KOOT/TWIJNSTRA				x	x	x	o	
KWIEK	x	x				x	o	
LAND vander en TINGA				x	x	x	o	
LARC	x	x		x	x	x	o	
LOGICA				x	x	x	o	
LOGISTERION	x	x		x	x	x	o	o
MACRO						x	o	
M.D.T.				x		x	o	
MECASONICS				x	x			
MICROCOMPUTERS MAARN				x	x		o	
MICROSTORE						x	o	
MIKROFF						x	o	
MINIHOUSE NEDERLAND				x			o	
N.C.R.	x	x		x		x	o	
NEFKENS	x				x	x	o	
NETWORK						x	o	
N.L.R.	x	x		x	x	x	o	o
NORDINED	x	x		x	x	x	o	
NOVA AUTOMATION	x		x	x	x	x	o	o
ORAZ	x	x		x			o	
ORDINA				x	x	x	o	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
ORGANISATIE en AUTO	x					x	0	
P.A.MANAGEMENT CON.				x	x		0	
PAKHOED				x			0	
PANDATA			x	x	x	x	0	
PASCAL				x	x	x	0	
PIE DATA				x	x	x	0	
PLAN 71						x	0	
PONSAM				x		x	0	
PONS BOETIEK						x	0	
PONSBURO NEDERLAND						x	0	
PONSBURO VAN BENTHAM						x	0	
PONSBURO GOOILAND						x	0	
PONSBURO DE WAARD						x	0	
PONSCENTRALE VAN BEVEREN						x	0	
PONS SER. BUR. HET ZUIDEN						x	0	
PONSSERVICE PUMEREND						x	0	
PROGRAMSERVICE	x				x	x	0	
PROMPT BEHEERSDEINST						x	0	
PUNCH 96						x	0	
QUICK PUNCH						x	0	
R.&.V. COMPUTER TOE PASSINGEN							0	
RADICAL DATA				x	x	x	0	
RAET	x	x	x	x	x	x	0	0
RATIO					x		0	
REGNECENTRALEN NED				x	x	x	0	
REKENCENTRUM COMPTON	x	x		x			0	
REKENCENTRUM DONGEN						x	0	
REKENCENTRUM NED. GROOTHANDEL	x	x	x	x	x		0	
REKENCENTRUM ZUID	x	x		x	x		0	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
RENDECK			x	x	x		0	
REPKO						x	0	
ROTTERDAMSE COMPUTER	x	x	x	x	x		0	
R & V COMPUTER							0	
SAMSON	x	x		x	x	x	0	
SECOM	x			x	x	x	0	
SELKA				x			0	
SERAC	x	x		x		x	0	
SERVA						x	0	
SERVAD						x	0	
SERVOCOM				x	x	x	0	
SHELL NED.	x			x		x	0	
SIEMENS DATA				x		x	0	
SMRA	x			x		x	0	
SOFTWARE SCIENCES NED.				x	x		0	
SPAENDONCK					x	x	0	
STEAC					x		0	
STEMCO						x	0	
STICHTING C.T.B.	x			x	x		0	
STICHTING MATHEMATISCH				x	x		0	
STICHTING SMR.	x				x		0	
STICHTING SAAM-INFO				x	x		0	
STORKDATA							0	
S.V.Z.	x			x		x	0	
SWETS							0	
SYSDRIE				x	x		0	
SRB.				x	x		0	
SYSTOP				x			0	
T.M.A.				x	x		0	

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CAMP SERVICES INDEX

COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
TELECOMPTO	x			x		x	o	
TEMPELAAR				x	x		o	
TRIVER				x	x	x	o	
TIJL				x		x	o	
U.C.C.	x			x	x	x	o	o
URWICK INT.					x		o	
UTRECHTSE PONS CEN.						x	o	
VELDEN	x	x		x	x	x	o	
VLIET B.V.						x	o	
VOLMAC				x	x	x	o	
WALVIS				x		x	o	
WINSTON					x		o	
WOUTERS					x	x	o	
ZONNENBERG	x		x	x	x	x	o	
ZUIDEN						x	o	

COMPANY HIGHLIGHT

ARC AUTOMATION SERVICES
Prof. J.H. Bavincklaan 3
Postbus 330
1180 AH Amstelveen
TEL: 020 - 472711

Ir. P.L.W. ARTS
Managing Director
Turnover 1978: f 30,000,000
Total Staff 150

THE COMPANY

- ARC Automation Services was founded in 1950 as a 50-50 joint venture, between the Algemene Bank Nederland (ABN) and Philips Nederland B.V; in 1978 it became a wholly owned subsidiary of ABN.

- The company is divided into three separate operating units, ARC Software House, ARC Service Bureau, and ARC Computer Centre.

KEY PRODUCTS AND SERVICES

- **ARC Software House,**

  Consultancy,
  - feasibility studies
  - preparation of operational requirements
  - hardware selection
  - efficiency studies and advice
  - security of information

  Software Development
  - development of application software for all types of computers, adaptation of existing software.
  - conversion of existing software to other computers
  - contract hire of software specialist

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System Development

- turnkey systems

o **ARC Service Bureau**

- Standard programmes
- BEIS (business economic information system)
- BRUNET (salary package)
- VOAP (inventory and stock control)
- HYPA (mortgage administration)
- COCOS (computer conversation system for interactive teleprocessing)

Tailored Programmes for the following sectors

- Wholesale and Retail Trade
- Manufacturing Industry
- Insurance
- Banking
- Water Boards
- Education
- Pension Funds

o **ARC Computer Centre**

Main Frame Processing methods

- Batch
- Remote Batch
- Remote Job Entry
- Interactive teleprocessing

Input and conversion facilities

- Punch cards
- Magnetic tape
- OCR
- Punch tape

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INDUSTRY MARKETS

- ARC are active in most sectors of Government and Industry, and because of their parent company ABN, specialists in Banking, Pension funds and Insurance.

COMPUTER HARDWARE

- IBM 370/148
  CDC 1700
  RC 3600

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COMPANY HIGHLIGHT

CMG NEDERLAND B.V.
Laan van Kronenburg 14
Postbus 159
Amstelveen
The Netherlands

TEL: 020/45.72.51

General Manager
Mr. W.N.J. Koppers
Turnover: f 23.3M (1979)
(Est.): f 30 M (1980)
Staff: 200

THE COMPANY

- The CMG (Computer Management Group) group first started trading in the Netherlands in 1968. Since that time four operating companies have been set up in Holland:

  CMG Amsterdam B.V.
  CMG Rotterdam B.V.
  CMG Amstelveen B.V.
  CMG Den Haag B.V.

  These four companies are subsidiaries of CMG Nederland B.V.

- The business consists of consultancy, software development and bureau services. Software services are offered on a wide range of equipment including mainframes, small business computers and minicomputers. An increasing percentage of work is done in the area of consultancy, advising clients on the selection and implementation of small and mini-computer systems.

- Approximately 50% of the turnover is in tailored software development projects. CMG Amstelveen B.V., for example, specialises in such work for the banking industry.

- Bureau services are based on Burroughs equipment. A new computer has been installed for the Amsterdam centre, and is shortly to be upgraded.

- Overall sales in the Netherlands increased by around 30% in the last 12 months. This continues the growth of the previous two years. Profitability has also increased, as this expansion has taken place.

- CMG Nederland B.V. is a wholly-owned subsidiary of CMG (Computer Management Group) Ltd., the U.K. holding company.

HARDWARE

- Bureau services are run in batch and timesharing modes.

- Equipment installed consists of:-

  - Burroughs 3 x B 3800,
  - 1 x B 771 RJE.

- Like the U.K. companies of the CMG group, the Dutch companies operate a terminal network (approximately 50 terminals) consisting of User Site Hardware systems of the following types:

  - VDUS or serial printers
  - Datapoint 1500
  - Texas Instruments TI 742.

KEY PRODUCTS AND SERVICES

- CMG concentrates on commercial data processing to the virtual exclusion of scientific and technical applications

- Important application areas are:

  - accounting for sales, purchase and general ledgers,
  - payroll and personnel records,
  - inventory and stock control
  - manufacturing systems,
  - membership subscription records,
  - banking and other financial institutions.

- Specific products exist for:

  - payroll (PROCESS and PAYFACT),
  - investment management (BAS and INVEST II),
  - financial management (FACT),
  - inventory/stock control (CENDIS),
  - subscription administration (ONEX),
  - motor dealer accounting (GAS),
  - banking (INTABS),
  - royalty accounting (TRACS).

MARKETING STRATEGY

- CMG offers a range of services broad enough to cover most commercial applications with software and/or processing services. This entails a flexible approach to customer requirements.

- Complementary to this sales policy is an organisation and management structure designed for flexibility. The front line interface with the customer is the CMG Customer Service Group, consisting of a manager and his team of consultants, who have the authority to draw on both local and group resources where necessary. This structure ensures flexibility and quality.

- CMG is by deliberate policy a mixed services vendor, that is, both a service bureau and a software company. In Holland, CMG employs 100-120 software development staff, 50% of whom are engaged on small business systems work. CMG ranks in the top three software houses in the country.

- Involvement in projects such as the SWIFT banking network, have led CMG to the position of being a multi-national services vendor operating in the European national markets.

COMPANY HIGHLIGHT

COMBINATIE SAMEWERKENDE
REKENCENTRA B.V. CSR
Reimersbeek 2
Postbus 71012
1008 BA Amsterdam

Tel: 020 - 427428

M.E. Bent
President
A.Z. Post
Director
Total Staff: 180

THE COMPANY

- C.S.R. was founded in 1968 and operated up to January 1978 as an independent company when it was acquired by Central Beheer, and it now operates as a subsidiary company of Central Beheer CEA, the computer services company of Central Beheer U.A.

- The company is divided into two divisions.

  - CSR - computer house with offices in Amsterdam and Rotterdam
  - CSR - software house (Compuhelp) which operates from Amsterdam.

KEY PRODUCTS AND SERVICES

- C.S.R. Computer House offers services mainly aimed at the Trading, Production Industry, Publishing and Society's; to these clients' areas basic packages have been developed which are tailored to meet the specific needs of the client. CSR has developed especially for trading companies a special terminal orientated package AVIAS, whereby the complete administration process of the company can be handled.

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- Computer time based revenue earning services are batch, remote batch, timesharing and facilities management, which together comprise 80% of revenue.

- CSR also offer a system "Atlas" for on-line updating of subscription and membership administration.

- There is also a program, PACOS, which deals with changing postcodes to the new numbering system.

C.S.R. - Software House (Compuhelp)

- CSR - Software House offers a broad range of services:

  - Consultancy,
  - Project Management,
  - Systems Analysis and Design,
  - Data Preparation,
  - Programming,
  - Operating,
  - Training and Recruitment.

- Systems are developed for both the government and industry, banking and insurance. The group specialises in Facilities Management and has taken over the running of some ten in-house computer centres.

- C.S.R. offers to clients the service of specialists on loan on a long term basis:

  - Consultants,
  - System Designers,
  - System Analysts,
  - Programmers.

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COMPUTER HARDWARE

- IBM 370/125
  Bur. B 3700/350
  Bur. B 370/100

LANGUAGES

- Assembler, Cobol and RPG.

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COMPANY HIGHLIGHT

LOGISTERION B.V.
Groothandelsgebouw A3
Stationsplein 45
Rotterdam

Tel: 010 - 119648

F.H. Bouws
Managing Director
T.B. de Waart
Director
Total Revenue : Fl. 12.5M
Total Staff : 50

THE COMPANY

- Logisterion was founded in 1962 by Mr. F.H. Bouws, who had formerly been head of Scientific Services at N.L.R. (National Lucht en Ruimtevaart Laboratorium). The company is a wholly-owned subsidiary of Kramer & Zoon, Rotterdam, which has a separate group of 50 analysts and programmers (referred to as Logisterion 'A') and which supports its hardware marketing activities (including marketing and support of Kienzle, Adrema, Eumig and Fin-Address equipment).

- Until recently the company had concentrated on developing its original theme of engineering design calculation, and has become one of the leading specialists in the Netherlands in this field. Logisterion has a good reputation, both in the quality of its staff and in its range of proprietary packages, borne out by its client list.

- Recently the company began moving in the direction of creating a group and spreading its interests. About eighteen months ago, a significant shareholding was taken in a Belgian services company, WRC, which sells Logisterion software packages; this venture is expected to yield 100,000 Guilders of net income this year.

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- The company also participates in the parent company's training centre for sales and behavioural science. At this time Logisterion supplies lecturers only, but wishes in future to expand the course coverage and run the establishment as a subsidiary. A move in this direction is expected soon.

- Until recently, the company has had only limited involvement with commercial applications. An agreement has now been set up with COSYS to produce tailor-made software for mini computers; this is expected to result in the creation of a separate company called ERASMUS in which Logisterion will have at least a 33% stake.

- As their interactive services develop on the Prime, the link with CDC's 6600 is diminishing in usage.

- The registered capital of the company is 1M Guilders, of which 200,000 Guilders is issued.

- Total group turnover is around 40M Guilders; thus Logisterion is a significant part of the group activity.

- Captive revenue is approximately 5% of Logisterion's current revenue of 12.5M Guilders.

KEY PRODUCTS AND SERVICES

- The company is organised into eight functional groups, each of which reports directly to the Managing Director.

  - Civil Engineering,
  - Mechanical Engineering,
  - Traffic Engineering,
  - Project Management,
  - Technical Assistance/Software,

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- Interactive Services,
- Building Components Database,
- Micro System Development.

- The engineering and project management groups provide the revenue earning interface between the various sources of computer facilities available and their clients, who are typically consultant engineers in government or construction companies.

- The technical assistance group develops new or existing software packages; it is claimed that they have developed the best pipe stress package. Several of the Logisterion packages are used under license agreement by computer services companies such as CDC and UCC. Software is also developed for client's own machines.

- Interactive services are provided through the company's own Prime computer which either processes the work locally or acts as a front end to CDC's 6600. Alternatively clients may select the system and/or package facilities offered by ADP, CDC/NOS, UCC or GEIS; Logisterion has a terminal to connect with all of these services.

- A building components database (similar to Barbour Index) containing specifications and prices is being built up as a basis for a future information retrieval service.

- Microsystems are developed to extend the versatility of the parent company's products; for example, a patient registration system has been developed by addition of micro processing power to an Adrema labeller.

- A revenue-earning breakdown of Logisterion's services would appear as follows:

  - Batch services (20% of revenue),
  - Remote batch services (40% of revenue),

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- Interactive services		(10% of revenue),
- Facilities Management		(10% of revenue),
- Project management	)	
- Consultancy	)	
- Systems analysis/design	)	10% of revenue,
- Programming	)	
- Data Preparation	)	
- System and application software	)	
- Turnkey systems (hardware and software)	)	10% of revenue.

APPLICATIONS AND INDUSTRY MARKETS

- The major applications are as follows:

  - Design/Research and Development,
  - Marketing and Sales,
  - Maintenance,
  - Distribution and Transport,
  - Payroll/Personnel,
  - Accounting/Costing/Audit.

- Engineering, as previously mentioned, forms the largest industry market; in fact, 75% of Logisterion's business comes from this sector.

- A further 20% is found in the building industry, and the remaining 5% in National Government. Included in these latter two client groups are the Public Works and Pressure Vessel Government Departments, and Badger, Lummus, Fluor and Foster Wheeler. Companies such as Shell, Caltex, BP, ICI, HCW and Bredero are also clients.

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HARDWARE AND LANGUAGES

- CDC 6600 compatible off-line plotter
- PRIME 400 (on-line connection with CDC 6600)
- General Electric terminal (to connect with U.C.C. ADP, etc.)

- The major language applied is FORTRAN; Basic and Cobol are also used to a lesser degree.

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COMPANY HIGHLIGHT

RAET
Software & Computer Services
Sickeszplein 1
6800 Le Arnhem

TEL: 085 - 452022

DRS J.M. ALBERS
Managing Director
Ir. H. MATTHES
Director
Turnover f 34,000,000
Total Staff 250

THE COMPANY

- Raet was created in 1958 from the EDP department of the Heidemaatschappij; the share holding at the present time is:

Heidemaatschappij	33⅓%
Ballast/Nedam	33⅓%
Ogem	33⅓%

It is a wholly Dutch owned and managed bureau, specialising in the administrative and commercial fields.

- They have recently taken over Assyst B.V. which operates a software and computer service in the Middle East and it has also now started operations in the United Kingdom.

KEY PRODUCTS AND SERVICES

- Raet offers a wide range of services in both software and computer services.

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- Batch
- Remote Batch
- Time Sharing
- Facilities Management
- Software Systems and Packages

  (mostly in the Administrative Sector but some Technical and Scientific)

GEOGRAPHIC COVERAGE

o Apart from its main center in Arnhem, Raet has offices in Rotterdam and Amsterdam, its subsidiary Assyst, has its Dutch center at Amsterdam and an office in Newcastle (U.K.) and offices in the Middle East and Al Khobar (Saudi Arabia) Riyadh (Saudi Arabia), Dubai (United Arab Emirates).

INDUSTRY MARKETS

o Raet specialise in providing services for the following markets:

Retail/Wholesale trade
Banking/Financial/Insurance
Construction
Discreet Manufacturing

o There is a diversified range of packages available for bookkeeping, order processing, stock control, purchase accounting, general ledger etc.

COMPUTER HARDWARE

o IBM 370/158
HARRIS 6024/4 V.M.S.
IBM SYSTEM 3/15

o Various internal remote batch terminals connected to the IBM 370/158.

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(vi) ITALY

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DISTRIBUTION OF SAMPLE COMPUTER SERVICES COMPANIES IN ITALY BY 1978 TURNOVER AND PRINCIPAL ACTIVITY

MAIN ACTIVITY	TURNOVER (US $)								ALL WITH T/O		SAMPLES AS % OF TOTAL POPN.
	10M "A"		10M - 1M "B"		1M - .1M "C"		0.1M "D"				
RCS BUREAU	5	1.1%	9	2.0%	6	1.3%	-	-	20	4.4%	83% of 24
BATCH BUREAU	-	-	53	11.8%	257	57.1%	34	7.6%	344	76.4%	69% of 501
SOFTWARE AND PROFESSIONAL SERVICES	2	0.4%	14	3.1%	58	12.9%	7	1.6%	81	18.0%	71% of 114
OTHER (EG COM, DATA PREP.)	-	-	2	0.4%	3	0.7%	-	-	5	1.1%	71% of 7
ALL WITH T/O.	7	1.6%	78	17.3%	324	72.0%	49	9.1%	450	100%	70% of 646

EXHIBIT V-C.6

COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
ABACO	*			*			●	
ABRIVI	*				*		●	
ACCA PERFORAZIONE	*						●	
ADES	*		*	*			●	●
ADM	*						●	
ADP CYPHERNETICS	*	*		*			●	
AD & S.	*						●	
AESI	*			*			●	
ALFE	*						●	
ALL SERVICE	*						●	
ANALISYS	*						●	
ANALISYS TOWARDS	*						●	
ANDROMEDA	*			*			●	
AP SYSTEM	*						●	
APED	*						●	
ARCA	*						●	
ARITMMA	*						●	
ARO	*						●	
ARS-APPLICAZIONE	*			*	*		●	
ASCOM SERVIZI	*						●	
ASIS	*	*			*		●	
AS.P.EL	*						●	
AUDISERVICE	*						●	
AUDITAL	*						●	
AUSELDA	*						●	
AUS.EL. DA S.p.A.	*	*					●	
A-Z SERVICE	*						●	
BABY CENTER	*						●	
BALFO ELAB	*						●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
BATA COLLECTION	*						•	
BEMI	*						•	
BENNATI AMEDEO	*	*					•	
BETA SERVICE	*						•	
BITTI	*						•	
BMC	*						•	
BOSE' OSCAR	*			*	*		•	
BRUWAN	*			*			•	
BYTE INPUT	*						•	
BYTELOGIC	*			*			•	
BYTE SOFTWARE	*			*			•	
CALDARINI	*						•	
CAM	*						•	
C.A.M.E.C.	*						•	
CAMPAGNARO	*						•	
CAPP - SOFTWARE	*			*			•	
CARDANA ITALIA	*						•	
CARED	*						•	
CARID	*						•	
CASSINI	*						•	
CASTELLANI	*						•	
CAVALLI	*			*			•	
C.C.C.	*						•	
CCM COOP	*						•	
C.D.S. ITALIA	*	*		*	*		•	•
CEA - CENTRO	*						•	
CEAC	*	*					•	
CEAM	*						•	
CEC	*	*					•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
CECA	*	*					•	
CE.COM	*						•	
CED	*						•	
CED S.a.s.	*						•	
CED S.n.c. Bologna	*						•	
C.E.D. S.n.c. Vicenza	*						•	
CED S.p.A.	*	*		*			•	
C.E.D. S.r.l.	*						•	
CED S.r.l.	*	*		*			•	
C.E.D. CENTRO	*						•	
CED ELETTRONIC	*	*					•	
CEDA	*						•	
C.E.D.A. Alassio	*						•	
C.E.D.A. Venice	*						•	
CEDA S.n.c.	*						•	
CEDA Bari	*						•	
CEDA Bologna	*		*				•	
CEDA Milan	*	*		*			•	
CEDA Verona	*	*					•	
CEDA Turin	*						•	
CEDACO	*						•	
CEDAL	*						•	
CEDA SYSTEM	*	*					•	
CEDAS Modena	*	*					•	
CEDAS Milan	*	*			*		•	•
CEDAT S.p.a.	*						•	
CEDAT S.r.l.	*	*		*			•	
CEDEP	*						•	
CEDI	*						•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
CEDI S.r.l.	*						●	
C.E.D.I. MEGA	*	*					●	
CEDISC	*						●	
CEE S.p.A.	*			*			●	
C.E.E. Treviso	*			*			●	
C.E.E. Pavia	*			*			●	
C.E.E.C.	*						●	
C.E.E.D. Lucca	*						●	
C.E.E.D. Pistoia	*						●	
CEED S.n.c.	*						●	
C.E.E.D. S.r.l.	*						●	
CEI SYSTEMS	*						●	
CEIA	*	*					●	
CELCOM	*						●	
CELCON	*						●	
C.E.L.D.A.C.O.	*						●	
CELDAT S.a.s.	*						●	
CELDAT S.r.l.	*						●	
C.EL.PAC	*						●	
CELSAM	*						●	
CEL SUD S.p.A.	*						●	
CENTRE DATA RECORDING	*						●	
CENTRO S.p.A.	*			*			●	
CENTRO 2000	*	*					●	
CENTRO AZ	*						●	
CENTRO CALCOLO	*						●	
CENTRO COOPERATIVO	*	*		*	*		●	
CENTRO DATA	*						●	
CENTRO DATI	*	*					●	●

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
CENTRO ELABORAZIONE	*						•	
CENTRO ELAB	*						•	
CENTRO ELETTRO	*						•	
CENTRO ELLETTR. BRESCIANO	*						•	
CENTRO ELETTRONICO UDINE	*	*					•	
CENTRO MAX BORN	*						•	
CENTRO MAX BORN S.r.L	*						•	
CENTRO MECCANOGRAFICO Bologna	*	*					•	
CENTRO MECCANOGRAFICO Nice	*						•	
CENTRO MECCAN. CONTABILE	*	*					•	
CENTRO MECC. GAMMA	*				*		•	
CENTRO MECC. MONZESE	*						•	
CENTRO PILOTA	*						•	
CENTRO PARATESE	*						•	
CENTRO S.D.A.	*	*					•	
CENTRO S.E.D.A.	*						•	
CENTRO SERVIZI Ravenna	*						•	
CENTRO SERVIZI Livorno	*						•	
CENTRO SERVIZI Milan S.D.F.	*						•	
CENTRO STUDI	*						•	
CENTRO SERVIZI Milan	*						•	
CENTRO TEXCON	*						•	
CEP	*						•	
C.E.P.A.C.	*				*		•	
CE.PA.CO.	*						•	
CEPECO	*						•	
CE.P.E.D.	*	*					•	
CERVED S.p.a.	*	*	*	*	*		•	
CERVED	*	*					•	

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C.E.R. S.r.l.	*			*	*		•	
CESA	*						•	
CESA S.p.a.	*						•	
CESAC	*			*			•	
CESDA	*	*					•	
CESE	*						•	
CESED	*						•	
CESED S.r.l.	*						•	
CESIP				*			•	
CESTOR	*						•	
CET-IVA	*						•	
C.G.S.	*						•	
CHAMPION	*			*	*		•	
CIAM	*				*		•	
CIBER	*						•	
C.I.D.	*						•	
CIESSEEMME	*						•	
CIFRA	*						•	
C.I.P.A.	*						•	
C.I.S.I.	*						•	
CITE	*			*	*		•	
CIVA	*						•	
C.M.C.	*						•	
CMD 2000	*						•	
C.M.I.	*						•	
C.M.L.	*						•	
C.M.M.	*						•	
C.M.P.V. ASTI	*						•	
CMPV S.N.C.	*						•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
CONTROL SCHEDA	*						•	
C.O.O.P.E.L.D. Padua	*						•	
COOPELD BOLOGNA	*			*			•	
COOP	*		*	*			•	
COOPERATIVA SACEP	*						•	•
CO.PE.S.	*						•	
CORED	*	*					•	
COSMED	*						•	
COSTA	*						•	
C.P.D. MILAN	*						•	
C.P.D. S.r.l. ROMA	*						•	
C.P.E.	*						•	
C.P.S.	*						•	
CRED Modena	*						•	
CRED Turin	*						•	
CRED S.r.l. Rome	*						•	
CRED S.r.l. Milan	*						•	
C.R.M.				*			•	
C.R.P. Turin	*						•	
C.R.P. Milan	*						•	
C R S	*						•	
CRUED	*			*		*	•	
C.S.	*		*	*			•	
CSATA	*	*		*			•	•
C S C	*						•	
CS CENTRO	*						•	
CSED	*	*					•	
CSIA	*			*			•	
CSIT				*	*		•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
C.M.T. Milan	*						•	
C.M.T. Turin	*						•	
COBER			*	*	*		•	
CO.BI.FER	*						•	
CODAPS	*	*					•	
CODAT	*	*		*			•	
CODEM	*						•	
CODEX	*						•	
C.O.E.D. Genoa	*						•	
C.O.E.D. Milan				*			•	
CO.GES	*	*					•	
COGRAM	*		*	*	*		•	
COMED	*						•	
C.O.M.E.D.	*						•	
COMEL	*						•	
COMITALIA	*	*					•	
COMP	*						•	
COMPUTER	*						•	•
COMPUTER SERVICE	*			*			•	
CONFIED	*						•	
CONFIGURATION	*						•	
CONSED							•	•
CONSORZIO	*						•	
CONSULAGENT							•	
CONSULDATA	*						•	
CONSULENT	*		*	*			•	
CONSULTING	*						•	
CONTAX	*						•	
CONTROL-BYTE	*						•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
C S M							•	
CTC	*			*			•	
C.U.S.	*						•	
DACON	*						•	
DANESIN	*						•	
DATA S.r.l.	*			*			•	
DATA AUTOMATION	*	*	*	*	*		•	
DATA-CEGOS	*	*		*	*		•	
DATA CENTER	*						•	
DATA CONSULT				*			•	
DATA ENTRY	*						•	
DATA FRIULI	*	*		*			•	
DATAMAT			*	*	*		•	•
DATA MANAGEMENT	*	*	*	*	*		•	•
DATAMAX	*	*	*	*			•	
DATAMONT	*	*	*	*	*	*	•	•
DATA ORGANISATION	*				*		•	
DATA PRINT		*		*			•	
DATA PROCESSING	*	*					•	
DATA SERVICE	*						•	
DATA SERVICE CENTER	*	*		*			•	
DATA SYSTEM	*			*			•	
DATA 2000	*	*	*	*			•	
DATCO	*		*	*			•	
DATELETTRON	*	*					•	
DATEX			*	*			•	
DATI	*						•	
DATITALIA	*	*					•	
DATOR	*						•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
DATOR S.r.l.	*	*					•	
DE NICOLA ELVIRA	*		*				•	
D.E.P.	*						•	
DES				*	*		•	
DIAC	*						•	
DOHLER	*						•	
D.P. S.r.l.	*						•	
D.P. CENTER	*						•	
D.P.O.	*			*			•	
D.P.S.	*						•	
DPS S.n.c.	*				*		•	
DPS S.p.A.				*	*		•	
DR. BANIVENTO	*						•	
DRC	*						•	
D.S.	*	*		*			•	
DUAL DATA	*	*		*			•	
2001 DUEMILAUNO	*						•	
DUINA TELEDATA			*	*			•	
E. DATA	*						•	
E.A.D.	*						•	•
ECME	*			*			•	
ECOM				*	*		•	
ECOS SYSTEM				*	*		•	
E.D. SYSTEM				*			•	
EDA				*			•	
EDA snc	*			*			•	
EDA S.p.A.	*		*	*			•	
EDA s.r.l.	*	*		*			•	
EDAC	*						•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
EDP S.p.A.	*	*		*	*		•	
EDP 70	*	*	*	*	*		•	
EDS S.r.l.	*			*			•	
E.D.C. S.R.I.	*			*			•	
E.D.D.A.				*			•	
EDEP	*		*	*			•	
EDIC	*						•	
EDIOS							•	
E.D.M.	*						•	
E.D.P.	*						•	
EDP BARLETTA	*						•	
EDV	*						•	
EFFEPI	*						•	
EID	*			*	*		•	
ELCO	*						•	
EL.DA.	*						•	
ELDACO	*						•	
EL-DAT	*						•	
ELDATEX	*			*			•	
ELDEFIM	*						•	
ELELDA	*						•	
ELEKTROCONT	*						•	
ELELCO	*						•	
ELETTRONICA	*						•	
ELMEC	*						•	
ELTRON	*			*			•	
EMI	*						•	
E.P.C.	*						•	
ERREDI	*						•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
E S A	*			*	*		●	
ESSE 2 PI	*	*					●	
ESSETI	*						●	
EURO CENTER	*						●	
EURODATA	*	*	*	*	*		●	
F.A.	*						●	
FAR-PUNCH-SERVICE	*						●	
FIDUCIARIA	*						●	
FIM				*	*		●	
FI.RE.MA	*						●	
FORCONTA	*						●	
FORMULA				*	*		●	
FUTURA	*						●	
GAETANI				*	*		●	
GALAKSIAS	*	*					●	
GAME	*						●	
GAP				*			●	
G.D.P.	*						●	
GDP ITALIA	*			*			●	
GECOM	*						●	
G.E.D.	*						●	
GE-DA S.p.A.	*	*	*	*	*		●	●
GEDA S.r.L. Lucca	*						●	
GELDA	*	*					●	
GENERAL DATA	*						●	
GESCA	*	*					●	●
GESI	*						●	
GESTIONI	*	*					●	
GEVART	*						●	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
GHIRARDINI	*						•	
GI-SETTANTA	*		*	*			•	
GIORDANO	*						•	
GOVONI	*	*					•	
G.S. GENERAL				*	*		•	
GUASCO					*		•	
HELIOS DATA	*						•	
HELIOS SYSTEM	*						•	
I.B.E.D.	*						•	
ICE S.r.l.	*						•	
IBM ITALIA	*	*		*	*	*	•	
I.C.E.D.					*		•	
ICI BOLOGNA	*			*			•	
I.C.M.A.	*		*				•	
ICS	*			*			•	
I.C.I.S. S.p.A.	*						•	
I.C.S. S.r.l.	*	*	*	*			•	
I.D.S.	*						•	
I.E.S. S.a.S.	*						•	
IES S.r.L.	*						•	
IFRE	*						•	
IMMAGE DATA						*	•	
INFOR	*						•	
INFORDATA	*			*			•	
INFORMATICA	*			*			•	
INFORMATICA S.r.l.	*						•	
INFORM. DISTRIBUITA		*			*		•	
INFORM. FRIULI	*	*		*			•	
INFORM. FRIULI-VENEZIA	*	*		*	*		•	

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COMPANY NAME / COMPUTER SERVICES MARKET SEGMENT	BATCH	REMOTE COMPUTING	FACILITIES MANAGEMENT	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	OTHER	DIRECTORY	HIGHLIGHTS
INFORM. ITALIA	*		*	*			●	
INFORM. SERVICE CENTER S.p.A.	*			*			●	
INF SERVICES	*	*					●	
INPUT CENTER	*						●	
INPUT SERVICE	*						●	
INPUT SERVICES Milan	*						●	
INPUT SERVICES Livorno	*						●	
INPUTEX S.p.A.	*		*	*			●	
INSOMOD	*						●	
INTEMA	*	*	*	*			●	
INTERACT	*			*			●	●
INTERLOGOS	*	*	*	*			●	●
IRCA	*			*			●	
ITAL SOFTWARE	*		*				●	
ITALSIEL- IMPRESE	*	*	*				●	
ITALSIEL			*	*	*		●	●
ITALSIME	*						●	
ITALSPED	*	*	*	*	*		●	●
IVA MEC	*						●	
IVAMEC	*						●	
JANUS SERVIZI	*	*					●	
JUNIOR SERVICE	*						●	
KEY-DATA	*						●	
KEY TD	*			*			●	
KOMEC	*						●	
LASER SERVIZI	*			*			●	
L'ELABORAZIONE	*	*	*	*			●	
LE. TA. ELABORAZIONE	*						●	
LINE	*	*					●	●

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LISA	*		*	*			•	
LOGOS DATA	*			*			•	
MADACO S.r.l.	*						•	
MARCHESCHI	*						•	
MAREDA	*						•	
MARVAC	*						•	
MARWAL	*						•	
MASTRANGELO	*						•	
MATTERN	*						•	
M.C.S.	*				*		•	
MDB	*						•	
M.D.E. Pordenone	*						•	
M.D.E. Trieste	*						•	
M D S SERVICE	*						•	
MEC S.r.l.	*						•	
ME MAR ELECTRONIC	*			*			•	
MEMORIA	*	*	*				•	•
MENEGAZZI	*						•	
MESCHINI	*				*		•	
METRA INDUSTRIA	*			*	*		•	
MONFALDI							•	
MONTIANI	*						•	
M.T.M. S.r.l.	*						•	
MULTECO	*			*			•	
MULTIDATA	*	*					•	
NEW SYSTEM	*						•	
NON CONVENTIONAL							•	
NORMADEC	*						•	
NUOVA	*						•	

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O.C.S.A.	*			*			•	
O.G.D.	*						•	
OGEA	*	*		*			•	
O G S	*						•	
O & M	*				*		•	
OMEC	*	*					•	
OMICRON	*	*					•	
OPEC	*	*		*			•	
ORGANIZZAZIONE AZIENDALE	*						•	
ORGANIZZAZIONE ED	*			*			•	
ORLANDI GIORGIO	*						•	
ORME	*						•	
OROBIC	*	*					•	
OSED	*		*	*			•	
OSSOLA	*			*			•	
OXA			*	*			•	
PANDA	*						•	
PARMA	*	*	*				•	
PASS	*						•	
PATRIMONIALE	*						•	
PDM TORINO	*						•	
P.D.S. Lodi	*						•	
P.D.S. Milan	*						•	
PERCON	*						•	
PERT	*						•	
PETTERLINI							•	
PGM	*						•	
P G P SISTEMA			*	*	*		•	
PHILCONT	*						•	

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PIEMANTE	*						•	
POCEDA	*						•	
PRAXIS	*			*	*		•	
PREALPINA	*	*					•	
PREDA				*	*		•	
PRIMA	*						•	
PROGEDI	*						•	
PROGRAMAT S.n.c.	*		*	*	*		•	
PROGRAMAT S.r.l. Lucca	*				*		•	
PROGRAMAT Srl Milan					*		•	
PROGREDI	*						•	
PROGRAMM	*						•	
PROGRES	*			*			•	
PUNTO TRE	*						•	
QUICK SERVICE	*						•	
RACCORDO	*						•	
RACE SERVICE	*		*	*			•	
RAGMA				*			•	
RAGMA S.r.l.				*	*		•	
RATIO K.G.				*	*		•	
RAZIONAL	*				*		•	
R.D.S.	*						•	
REAL TIME				*			•	
RECORDATA	*						•	
R.E.D.A.	*						•	
REDA S.r.l.	*						•	
REDAC	*						•	
REELDA	*						•	
REGISTRATICA	*						•	

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REKORD CENTER	*						●	
R.E.V.E.D.A.	*						●	
ROVELDATI	*						●	
R.P.V.	*						●	
RT. ITALIANA	*			*			●	
RUFFATI RICCARDO	*						●	
SA-SERVIZI	*	*	*				●	
SAB-Italia				*			●	
SACA	*						●	
S.A.E.D.	*						●	
SAED S.r.l.	*						●	
SAED COOP							●	
SAED INFORM	*						●	
SA.E.DA	*						●	
SAF	*	*	*				●	
SAIM	*						●	
SAN BARNABA	*	*					●	
SASE	*						●	
SASOS	*						●	
SCED	*						●	
SCIAS			*	*			●	
SCODA	*			*			●	
S.D.M.	*						●	
SEA	*						●	
SEAD	*		*	*	*		●	
SEAP	*						●	
SECAM	*			*			●	
S.E.D.S.p.A.	*			*			●	
SED Bologna	*						●	

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SED Frosinone	*						•	
S.E.D. Lucca	*						•	
SEDA S.a.s.	*						•	
SEDA S.n.c.	*						•	
SEDA S.p.A. Rome	*	*	*	*	*		•	
SEDA S.p.A. Ancona	*	*		*			•	
SEDA S.r.l.	*						•	
SEDAT SERVIZIO	*	*					•	
SEDAS	*						•	
SEDI	*						•	
S.E.E.D.	*						•	
SEITRON							•	
SEL ENTRY	*						•	
SELCO	*		*	*			•	•
SELDA S.a.s.	*			*			•	
SELDA S.r.l.	*						•	
SELE	*		*	*			•	
SELECOM				*			•	
SELEDATA S.p.A.	*						•	
SELEDATA S.r.l.	*						•	
SELENA	*						•	
SELESTA SISTEMA				*			•	•
SELORG	*						•	
SELTERING	*						•	
S.E.M.	*						•	
SEPED				*			•	
SEPER	*						•	
SERVICES	*						•	
SERVIZI AZIENDALI	*						•	

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SERVIZI AZIENDALI S.r.l.				*	*		●	
SERVIZI D'INFORMATICA	*						●	
SERVIZIO ELAB	*	*					●	
SERVIZIO I.C.P.	*						●	
S.I.A.	*						●	
SIBER DATA	*						●	
SICED	*	*					●	
SICIT	*						●	
SICIT S.p.A.	*	*	*	*	*		●	
SICPLANT				*			●	
SIED	*			*			●	
SIED S.r.l.	*						●	
SIEM	*						●	
SIGMA S.n.c.	*						●	
SIGMA DATA	*						●	
SIGMA ITALIA	*						●	
SILVER CORD	*						●	
SIMA				*	*		●	
SIMONS	*						●	
SINEDA S.r.l.	*			*			●	
SINIGAGLIA			*	*			●	
SIPA	*		*	*			●	●
SIPE OPTIMATION	*	*	*	*	*		●	●
SIPE	*						●	
SIRIO	*	*		*			●	
SIRIO-INFORMATICA	*						●	
SIRO S.r.l.			*	*			●	
SISCAT				*			●	●
SISCAT S.p.A.				*			●	

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SISDO				*	*		•	
SISTED	*						•	
SISTEMA Milan	*			*			•	
SISTEMA Florence	*						•	
SISTEMA 2	*						•	
SISTEMA 10	*	*		*			•	
SKEDA	*						•	
SKEMALOG	*			*			•	
SNAI	*						•	
SOCIETA' CE.ST.OR	*						•	
SOCIETA' ELABORAZIONE	*						•	
SOCIETA GENERALE				*	*		•	
SOC. SERV. CONS	*			*			•	
SOFT DATA			*	*			•	
SOFTWARE ITALIA	*						•	
SOFTWARE SISTEMI			*	*	*		•	
SO.GE.DA	*						•	
SOCESI	*						•	
SOI				*	*		•	
SPES	*						•	
S.P.E.V.	*						•	
S.P.I.	*	*		*	*		•	
STUDIO ALFO	*						•	
STUDIO BETA	*						•	
STUDIO CENTRO	*	*		*			•	
STUDIO DATOR				*	*		•	
STUDIO DELLA	*		*				•	
STUDIO DI INFORMATICA					*		•	
STUDIO ELAB.	*			*			•	

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TEMA		*		*			•	
TESI	*	*		*			•	
THE B.E.S.T.	*						•	
TRANSDATA	*						•	
UCP				*			•	
URANIA CENTER	*						•	
UTEC	*						•	
VALTORTA SONIA	*						•	
VEGA	*	*					•	
ZETA	*						•	
ZETATIESSE	*						•	

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COMPANY HIGHLIGHT

DATAMONT S.p.a.
Via Tamarelli 48
20124 MILAN
Telephone: (02) 6333
Telex : 31679

Dr. Mazza
Managing Director
Total Sales 1978 : $26.4M
Total Staff: 430

THE COMPANY

- Datamont, a subsidiary of Montedison, has been operating since 1972 in the design, management, development and sale of systems software.

- These are made up of management systems for the automation of administrative procedure, company finances and business, and technical systems for the automisation of production and scientific processing.

- Datamont develops EDP for around seventy major companies besides all the divisions and associations of the Montedison group.

- Dualdata is an associate company of Datamont which, with 80 staff members operates in strict collaboration with Datamont.

- The company has another office at

  - Piazza Lo Sturzo 31
    00195 ROME - Tel. (06) 489091.

SYSTEMS HARDWARE

- 2 x IBM 370/168
- Also installed is a Univac 1106
- Dualdata plan to instal an IBM 370/168 and 370/158.

KEY PRODUCTS AND SERVICES

- Data Processing -
  - General procedure
  - Custom services
  - Microfilm from magnetic tape
  - Information banking system
  - Optical document reading

- Software Products -
  - Application packages
  - Provision of basic software

- Software Services -
  - Consultancy and Design
  - Analysis and Programming

- Network Information Systems -
  - Remote Batch
  - Real Time
  - Timesharing

- Facilities Management -
  - Complete Systems Management (Programming and Installation)
  - Management of Overload Procedure

INFORMATION SYSTEMS

- General accounting and VAT-COGE-VAT. The user can choose between the following alternative solutions :

  - General accounting and VAT (complete system)
  - Sectional bookkeeping and VAT (Clients, suppliers and end users VAT)
  - Personnel Administration - A. PE - The client can select from Data Management's services and Management
  - Shop Management - GE MA - This can be divided into three parts :

    i) Accounting
    ii) Management Statistics
    iii) Financial Information

  - Banking Information System - SIB. A complete system for management of main banking services. This can be divided into the following subsystems:

    a) Registry of births, mariages and deaths

COMPANY HIGHLIGHT

GE-DA GESTIONE DATI S.p.A.
Via Cesare Lombroso, 54
20137 MILAN
Telephone : (02) 593041/5460141
Telex : 35395

Dr Cefis
Managing Director
Total Sales 1978 : $11.0M
Total Staff : 265

THE COMPANY

- GE-DA Gestione Dati is a part of Systems Corporation of Greenwich, U.S.A. operating in Italy since 1968 and offering to businesses and public corporations the entire range of services and professional assistance connected with the use of computers.

- GE-DA operates throughout the whole of Italy with offices also in Rome, Padua and Naples. Its bureaux are in Milan and Rome.

SYSTEMS HARDWARE

- The company has an IBM 370/155 and 370/145 in Milan and four Univac machines in Rome.

KEY PRODUCTS AND SERVICES

- Application consultancy (12% of work)
  - Feasibility studies
  - Planning of information systems
  - Data processing auditing
  - Education
- Programming and Analysis (25% of work) on client premises or at headquarters - Packages (20% of work)
  Application development

- Sophisticated products to clients requirements in "Batch Mode" or in "Real Time" which solve problems in the application area :

  For businesses -
  - Personnel management
  - Accounting
  - Expedition and control of orders
  - Invoicing
  - Shop management

  For the public sector -
  - Registration services (including certificates)
  - Health and hygiene
  - Education
  - Elections
  - Transport
  - Hospitals

Data Base

- Standard software (operation systems and languages)
- Slow terminal management (Monitors) and fast correction to central processors.
- Processing (43% of work) either standard or custom made packages
  - local Batch processing (28% of work)
  - Remote Batch processing by means of terminals (3% of work)
  - Updating, processing and queries via remote, real time VDUs and line printers (33% of work)
- Technical/commercial consultancy :
  - Set up business negociations
  - Help clients during a project
  - Look after the administrative reports with the users.

COMPANY HIGHLIGHT

ITALSIEL S.p.A.
Via Isonzo
00198 ROMA
Tel : (06) 841351

Dr Santacroce
Managing Director
Total 1978 Sales : Lira 55.5B
Total 197 Staff : 560

THE COMPANY

- Formed in February 1969 on the initiative of IRI with a capital of $6.17M, Italsiel is held by IRI (63.58%), the Public Sector (15.85%) and private holdings (20.57%).

- The key business activities are :
  - systems design, development and implementation
  - expansion of existing (and development of new) applications for installed systems
  - facilities management contracts
  - education and training of the staff needed for these activities (in-house and external)

- The distribution of the total 1977 sales of $124M was as follows :
  - software/systems activities : $12.35M
  - hardware related revenues : $11.65M

KEY PRODUCTS AND SERVICES

- Italsiel is a Professional Services vendor which offers a complete range of services, from studies, economical analyses, EDP systems design, to basic and application software development, performance auditing of installed systems and facilites management

- The main groups are :

  (a) basic software development
  - * Operating system development for Batch, Real Time, Timesharing etc.
  - * Compiler development (Cobol, Fortran, PL1 etc)
  - * Utility software (data communications, file handling etc)

(b) design and development of applications software

* specification production, systems design, data flow analysis
* applications development
* quality control
* documentation and systems implementation assistance

(c) performance auditing

* evaluation of data processing systems from a qualitative or work-load standpoint ; resource optimisation.
* system extension studies for improved performance
* configuration analysis for new applications

(d) training/education

* programming languages, analysis techniques
* operating systems
* datacommunications
* methods and procedures
* hardware/software fundamentals

(e) facilities management contracts

ASSOCIATE COMPANIES

* Italsiel Imprese S.p.A (formely CIS)
This company was constituted in March 1970 as a 100% owned subsidiary of Italsiel, with a capital of $370K. The company is headquarted in Milan. The activities are almost identical to those of Italsiel. In 1977 total sales were $2.61M with a staff of 56.

* Informatica Friuli Venezia Giulia S.p.A
Formed in May 1974, and partially owned by the Civil Hospital of UDINE (35%), Italsiel (65%). The capital was $490K. The company's main aim is the management of the EDP processing centre of the Friuli-Venezia Giulia region, the facilities management of user/(own) EDP centres and the production of software needed by such systems. In 1977, total sales were $417M for a total staff of 148. Headquartered in Trieste.

* Italsistemi S.p.A

Formed in July 1974, the company is a 100% owned subsidiary of Italsiel, with a capital of $70K. It is headquartered in Rome and is specialised in the use of O/R techniques in civil and military fields and the provision of services connected with that area. In 1977, total sales were $0.15M.

* Societa Generale d'Informatica S.p.A.

Formed in May 1976 as a 100% subsidiary of Italsiel, the company's sole aim is the development and installation of the EDP system for the Ministry of Finance. Capital is $1.23M. In 1977 sales were $14.4M with a staff of 237.

HARDWARE

- A summary of the hardware in use and the location of each is given below :

	CENTRAL PROCESSOR	MEMORY SIZE (K)	MAGNETIC TAPES	MAGNETIC DISKS (Mb)	TERMINALS
IBM- MEMOREX- OLIVETTI	DUAL 370/168 370/158 370/168 370/158	2x2.048 2.560 2.048 4.096	20 6 12 6	14.000 2.400 10.000 4.600	721 18 4
HONEYWELL	H66/20	576	3	625	
HONEYWELL	H6040 DN355	1.152	4	625	15
SIEMENS	SIEMENS 7.755	700	6	1.000	11
IBM- MEMOREX- OLIVETTI	DUAL 370/148	2x1.024	8	3.200	130
IBM- MEMOREX- OLIVETTI	370/125 370/138	512 1.024	3 4	400 600	44

COMPANY HIGHLIGHT

SELESTA SISTEMI S.p.A
Via Meravigli, 6
20123 MILAN
Tel : (02) 874246/873129
Telex : 32354

Dr Podo
Managing Director
Total Sales 1978 : Lira 512M
Total Staff : 11

THE COMPANY

- Selesta is a group of three companies each acting independently :
  - Selesta Ingegneria
  - Selesta Informatica
  - Selesta Sistemi

Selesta Ingeneria

- Operates in the field of automation systems and process control. They also have special mini-computer applications besides Technical/Scientific accounting.

- Provides complete systems, either in association with other companies or in "joint ventures".

Services offered :

- Selesta Ingegneria plans, sets up and develops computerised control and automation systems
  - consultancy and system planning
  - Logical/mathematical analysis and definition of processing characteristics
  - Feasibility studies and market research
  - Analysis and definition of processing systems
  - Application software
  - Setting up and testing of installations
  - Turnkey projects

Applications :

- Industry
- Transport
- Ecology
- Military

Selesta Informatica

- This branch specialises in Information Processing, from the planning and analysis of information systems to program testing and implementation.

- The main application areas are in Management/Administration and the automation of production control.

Selesta Sistema

- Develops basic software systems and offers the corresponding consultancy.

- Assists management and specialist staff to develop, modify and budget operating systems from the early stages, advises and helps in the planning, sizing and setting up of DP centres and provides support in all areas of systems programming.

Services :

- Auditing and sizing of DP centres :
  - Total structure of DP centres
  - Development of documentation standards and modes of operation
  - Analysis of the installation's function and use of resources
  - Use of system, whether fully or for a single program
  - Recommendations to modify and improve individual areas.

- Consultancy and Basic Software Development
  - Recommendations for installing and supporting basic software and software packages for the smoother running of the DP Centre.
  - Recruitment and training of programmers and operators
  - Development of intelligent terminal simulators
  - Assistance in the evaluation, choice and installation of Data Base systems and Data communications.

COMPANY HIGHLIGHT

SIPE OPTIMATION S.p.A.
Via Silvio d'Amico, 40
00100 ROMA
Telephone : (06) 5476
Telex : 64362

Dr Botti
Managing Director
Total Sales 1978 : Lira 13.44B
Total Staff : 336

THE COMPANY

- SIPE Optimation was formed in 1969 with a capital of $1.5 Million offering a complete range of EDP services to businesses and societies.

- SIPE gives to small companies with no EDP structure, good computing facilities and programmes, while clients who can afford their own EDP facilities are provided with turnkey services.

- Clients with SIPE Optimation's facilities are given good techniques to help them face application problems in which they are not sufficiently experienced and for the maintenance of the products.

SYSTEMS HARDWARE

- 2 x Honeywell 66
- 1 Optical Mark Reader R.E.I.
- KOM 80
- 2 x Data Entry CMC 1800

KEY PRODUCTS AND SERVICES

- Complete acquisition services and data processing
- Management procedure checking large volumes of data
- Integrated business information systems

- Execution of technical calculations for projects and research
- Execution of statistical processing for finance and insurance
- Operational research processing
- Collaboration with computer centres in the following ways :
  - Taking overload over from customers' machines
  - Preparation, installation and testing of new procedure to transfer to client's computers
  - Handling of processing which requires a larger configuration of hardware than the user has, by telecommunication
  - Provision of standard packages on the clients' computers for common applications
  - Installation of turnkey systems with the responsibility of design, preparation of programmes, machine installation and the training of personnel.

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